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ABSTRACT

This review of the literature regarding the impact of maternal speech on the formation of a child's sense of self compares the speech of well mothers to that of depressed mothers. The review finds that maternal speech has a strong influence on the formation of symbolic self-representations during the toddler period. However, depressed mothers' speech is significantly different from that of normal mothers in terms of both content and process, and these differences have been shown to affect the way that children come to view themselves. Although no study specifically addressed the effect of depressed mothers' speech on the development of presymbolic self-representations, it is highly likely to have some effect via the mother's difficulty in maintaining interactions. Depressed mothers speak less to their infants, exaggerate their intonations less, and take longer to respond to infants, suggesting that interactions may be awkward at best or nonreinforcing at worst. Depressed mothers' speech to infants also appears to be critical and negative. These structural and content differences in depressed maternal speech carry over to the toddler period. The studies suggest that depressed mothers may be assisting their children in developing symbolic-self-representations that are highly negative in nature. However, the picture is more dynamic and complicated than is presented due to the impact of other individuals in the child's environment. How a father, siblings, peers, teachers, and grandparents respond will affect the process of forming an integrated sense of self. In addition, qualities within the child, such as temperament, will also affect the process. (Contains 70 references.) (HTH)

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THE VERBAL ENVIRONMENT OF CHILDREN AND ITS IMPACT ON THE DEVELOPMENT OF A SENSE OF SELF: A COMPARISON OF WELL AND DEPRESSED MOTHERS

A Doctoral Research Paper

Presented to

the Faculty of the Rosemead School of Psychology

Biola University

In Partial Fulfillment

of the Requirements for the Degree

Doctor of Psychology

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by

Julie A. Howard

May, 2000

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This is for my parents, James and Brenda Howard, whose loving support and sacrifice made this accomplishment possible.

"Good parents leave an inheritance for their children's children" and such "parents are the pride of their children." Proverbs 13:22 and 17:6

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ABSTRACT

THE VERBAL ENVIRONMENT OF CHILDREN AND ITS IMPACT ON THE DEVELOPMENT OF A SENSE OF SELF: A COMPARISON OF WELL AND DEPRESSED MOTHERS

by

Julie A. Howard

The formation of the sense of self is a complex interactive process, the roots of which can be found in the child's earliest attachment relationship. Children vary widely in the way they come to view themselves, and it is likely that many factors contribute to these variations. This paper is a review of the impact of maternal speech as it is influenced by maternal diagnostic status. Both well and depressed mothers speak to their children even prior to their children's ability to talk. However, the speech of depressed versus that of well mothers shows significant differences in terms of amount, quality, process and content of speech, and these variations affect the child's forming sense of self. Two bodies of literature have been reviewed in order to provide the basis for these conclusions. They include well mothers' speech to children and depressed mothers' speech to children.

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THE VERBAL ENVIRONMENT OF CHILDREN AND ITS IMPACT ON THE DEVELOPMENT OF A SENSE OF SELF: A COMPARISON OF WELL AND DEPRESSED MOTHERS

Introduction

This paper is a review of the literature regarding the impact of maternal speech on the formation of a child's sense of self by comparing the speech of well and depressed mothers. The speech of well mothers has been shown to affect various aspects of child development, including language development, early mother-infant bonding, and, most recently, emotional development and the way in which a child comes to view his or her self. Maternal speech literature appears to be evolving along these four distinct lines.

Authors who studied the impact of maternal speech on children's language development found that both the structure and the content of speech affect children's language development. Parents who interact with and speak to their children tend to have children who are linguistically competent (Furrow, Nelson, & Benedict, 1979). This line of investigation has continued to be prominent and important in the field.

Researchers have also investigated the way in which maternal speech affects the early mother-infant bond. A special form of simplified and exaggerated speech, labeled motherese, has been shown to regulate social interaction by gaining and

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maintaining infant attention and soothing infant emotions (Papousek, Papousek, & Koester, 1987). Most recently researchers have begun to consider the impact of maternal speech on children's emotional competence and sense of self (Denham & Auerbach, 1995; Wylie, 1990). Studies from all four lines of research will be considered within this paper to ensure the presentation of a comprehensive picture of the state of the literature regarding the impact of the verbal environment on the formation of the sense of self.

This paper will also provide evidence of the importance of the verbal environment by examining the differences in maternal verbal input for children raised in families with a depressed mother and those raised with well mothers, and how those differences impact a developing sense of self. Maternal depressed speech literature has tended to evolve along developmental lines, with articles focusing variously on speech to infants, toddlers, school age, and adolescent children. Each developmental stage will be reviewed in this paper.

Theoretical Considerations and Definitions

There is a great deal of complex and conflicting theory that underlies this literature review. In order to provide the proper context for this paper, a presentation of the issues involved as well as definitions of key terms are required. All literature in this section is theoretical in nature, but based upon current research.

The development of an integrated sense of self is a complex, dynamic, interpersonal process that is thought to begin in the context of the child's earliest

attachment relationship. Mother and child are actively involved in creating this integrated picture, a process that begins prior to the child's ability to use language to describe the self. The process changes with the child's ever growing developmental capacities, and over time a broad range of individuals and experiences contribute to the way the child views his or her self.

Numerous terms with often inconsistent and imprecise definitions have been used to describe the formation of a sense of self. The terms selected for this paper were chosen to reflect the advancing state of infant research that suggests infants are active organizers of experience with prelinguistic representational capacities. A full discussion of related infancy research and the controversy over terminology is beyond the scope of this paper; however, interested readers are referred to Beebe, Lachmann, and Jaffe (1997), Gardner (1998), Harter (1998), Mandler (1998), Stern (1985), and Thompson (1998) for a more thorough discussion.

For the purposes of this paper, a presymbolic self-representation is the organization of some aspect of self-other experience through the dimensions of space, time, and arousal that is linked to a particular affective valence (Beebe, Lachmann, & Jaffe, 1997). Symbolic self-representation is the organization of self-experience that has been abstracted into a meaningful pattern. It is a cognitive-affective linkage that is encoded linguistically as well as affectively. A symbolic self-representation occurs when the child is capable of metarepresentational activity, taking a stance toward a representation rather than merely representing an object itself (Gardner, 1998). The sense of self is the integration of multiple self-representations.

Although terms and definitions have varied among authors, there is a fair amount of convergence regarding the general process of the formation of an integrated sense of self. The roots of the sense of self begin prior to symbolic development—the ability to use common symbol systems such as language and numbers to convey meaning. Perceptual distinction of the self appears to exist from early infancy; however, the sense of self is a co-creation of child and caregiver.

From the birth of their infants, mothers relate to their children as if they are unique human beings with whom the mothers wish to interact. Mothers interpret their children's behavior and body movements as meaningful, and they reflect these meanings in a number of ways. A mother's words, her nonverbal cues, the manner in which she holds, feeds, and shows affection to her child, as well as the behaviors in which she delights, negatively reinforces, punishes, or ignores all provide information about aspects of the child's self and the child's relationship to an other. The mother is not merely a mirror for her infant in the sense of reflecting only what is there; rather, she is an interpreter of her infant's behavior. A mother's view of her child is filtered through her own needs, wishes, desires, cultural rules, and gender roles as well as any psychopathology she may have.

The child is not merely a passive receiver, but an active participant in the process. From the earliest months of life, infants actively organize and interact with the world around them (Beebe et al., 1997; Gardner, 1998; Mandler, 1998; Stern, 1985). They learn to anticipate recurrent patterns with caregivers and form presymbolic categories, suggesting some form of presymbolic representation (Beebe

et al., 1997). Thompson (1998) called these event representations, and suggested that, during the first year, these are contextually-bound social expectancies. Infants have preferences for levels of stimulation and use aversion of eye gaze to indicate the desire for a "break." Infants' responses can reinforce or fail to reinforce their mothers' overtures. Mandler (1998) suggested that infants may be forming and spatially representing concepts in tandem with the kind of procedural or sensorimotor representation suggested by Piaget.

During this first year it appears that the quality of the interaction between mother and child is primary and affects the core feelings about the self upon which later symbolic self-representations are mapped. Some authors even suggest that presymbolic self-representations are actually representations of the mother-child relationship (Beebe et al., 1997; Harter, 1998).

During the toddler period, the co-construction of the sense of self continues but increases in complexity. Self-agency, as well as self- and other-awareness, increases in complexity with the development of social referencing, joint attention, gestural communication, and motor control (Thompson, 1998). With the advent of language, semantic and autobiographical memory become possible, indicating the capacity to construct a linguistic portrait of the self--an integrated life story (Harter, 1998; Thompson, 1998). "Semantic memory is verbally encoded generalized information that when applied to the self would represent trait knowledge" (Harter, p. 564). Autobiographical memory is a "special form of episodic memory that codifies experiences of the self" and is important because it allows an individual to share

memories with others, thus increasing intimacy (Harter, p. 564). Toddlers are now capable of metarepresentational activity: the ability not only to remember something, but also to take a stance toward what is represented (Gardner, 1998).

The particular stance that a child takes toward what is represented as well as the particular words he or she uses to encode and describe self-experience is highly influenced by those in his or her environment. Thompson (1998) suggested that, in addition to the interaction itself, during the toddler stage, the particular language used by parents structures the child's memory of and feelings about events. A mother's responses to her child's developmental achievements will affect the child's feelings about these abilities as well as the ability to represent them symbolically (Greenspan, 1997; Thompson, 1998).

Developmental themes of separateness, agency, loss, desire, closeness, and intimacy as well as discrete affects such as anger, sadness, and fear are tolerated differently by different people. Those themes and affects that caregivers are able to support first in direct interaction and then later in language can be symbolically represented by the child. Those themes and affects that a particular caregiver cannot support either interactively or linguistically will be relegated to the world of action and physical satisfaction (Greenspan, 1997). Thompson (1998) indicated that differences between a child's direct experience and parents' interpretation of experience may cause dissonance in the child that may form the basis for early defensive exclusion of aspects of self-experience. Depending on the family's ability to support and code self-experience, some children may evidence severe deficits in symbolic self-

representations, with the exclusion of many aspects of self-experience, while others may evidence only minor areas of constriction (Greenspan, 1997).

Toddlers appear to have multiple, unintegrated, symbolic self-representations that focus on observable features of the self (e.g., "I can run fast. I am happy."). Toddlers deny that self and others are capable of possessing opposing traits or experiencing opposing emotions (Harter, 1998). During this period, children also have a global assessment of self or feeling about self that is likely based on their experiences with significant others (Thompson, 1998). Normal toddlers' assessments of self are typically overly positive (Harter, 1998).

During middle childhood, self-representations begin to coalesce into categories such as "I am good at running, jumping, climbing" (Harter, 1998). They are capable of mapping experiences, particularly in terms of opposites such as good and bad. They cannot integrate aspects that contain opposite valences (Harter, 1998). During late childhood, children can coordinate self-representations that have opposite valences and become capable of true trait labels. Thus a balanced picture of the self becomes possible. During adolescence, with the advent of abstract thinking, the child's picture of self moves from simple, compartmentalized, all-or-nothing thinking to higher order abstractions that resolve inconsistencies and conflicts within the self (Harter, 1998).

No family will perfectly facilitate the process of developing an integrated sense of self, so children will have different areas of strength and weakness. A family's difficulties in facilitation will have different effects depending on the developmental tasks the child is currently attempting to master.

Language appears to play an important part in this process. It seems likely that the particular words used by parents as well as the evaluative message those words convey would be representative of more subtle, nonverbal, relational processes. However, speech alone may be relevant in shaping a child's view of self. Both Harter (1998) and Thompson (1998) noted that a mother's description of events has relevance for her children in the formation of autobiographical memories and self-representations. In addition, the Sapir-Whorf hypothesis (Lyons, 1981) suggests that language has the power to mold experience as well as describe it. It appears then that the verbal environment of the child may have special relevance for the formation of the sense of self, particularly during the transition from presymbolic to symbolic functioning.

The development of the sense of self is a dynamic process that includes input from many individuals and experiences. The way in which fathers and siblings impact its development has not been directly studied and is beyond the scope of this paper. In addition, it has been noted that children show individual differences in the way they process input that they receive from their environment and the emotions they associate with such input (Harter, 1998). The contributions of many unique individuals and events as well as particular aspects of the child likely contribute to these differences.

Parental psychopathology may also impact the development of the sense of self. The manner in which maternal psychopathology affects this process, via the particular language a mother uses, has been little studied. Since the speech of depressed adults to other adults is known to be different from that of nondepressed

adults, it is likely that the speech of depressed mothers may vary from non-depressed mothers. In addition, such a finding may have special implications for the development of a sense of self in the children of depressed mothers.

Methodological Considerations

This paper reviews two bodies of literature to determine whether differences exist between the speech of well and depressed mothers to their children. The possible implications for sense of self in children are then considered. One body of literature reviewed considers the way well mothers speak to their children. The other body reviewed includes articles that deal with the way depressed mothers speak to their children. Both bodies of literature have different methodological considerations and therefore will be discussed separately, with one exception. Several researchers in both bodies of literature take an unusually liberal perspective on control of Type I errors setting the α at .10 rather than the more traditional .05. Most of the findings in the review hold low probability values ($p < .05$). However, findings in the range of $.10 > p > .05$ will also be reported when presented by specific researchers.

Speech of Well Mothers

The literature analyzing the speech of parents and siblings to children has a number of difficulties that complicate interpretation. The articles chosen for this review were written on four different, though not unrelated, topics: (a) the influence of maternal speech on children's language development, (b) the influence of maternal speech on the early mother-infant bond, (c) the influence of maternal affective

communication on children's emotion word use and emotion understanding, and (d) the influence of maternal speech on the formation of a child's view of self.

Although the specific research questions vary according to the researchers' areas of study, there are sufficient similarities to form the basis of a review. All articles are based on research in which researchers observe, code, and then analyze the structure, function, or content of parental or sibling verbal interactions with children. Most articles also contain information about how the child was affected by the verbal interactions.

Although the methodology of the researchers is similar, six basic variations exist that affect interpretation. First, of the studies reviewed, in seven of the studies researchers made their observations in the participants' homes (Dunn, Bretherton, & Munn, 1987; Dunn, Brown, & Beardsall, 1991; Fivush, 1989; Kavanaugh, Whittington, & Cerbone, 1983; Laks, Beckwith, & Cohen, 1990; Rabain-Jamin & Sabeau-Jouannet, 1989; Snow, 1977), and in eight of the studies researchers made their observations in a laboratory setting (Brousseau, Malcuit, Pomerleau, & Feider, 1996; Cervantes & Callanan, 1998; Denham & Auerbach, 1995; Denham, Cook, & Zoller, 1992; Denham, Zoller, & Couchoud, 1994; Papousek et al., 1987; Radke-Yarrow, Nottlemann, Martinez, Fox, & Belmont, 1992; Wylie, 1990).

Those studies that took place in a laboratory may be better suited to answering specific questions in an efficient manner and controlling for extraneous variables. However, even though investigators attempted to make the laboratory environment as inviting and homelike as possible (for example, Radke-Yarrow et al. [1993] designed

a research apartment), it is likely that those studies that took place in the participants' homes were more apt to put the participants at ease and capture everyday interactions.

Researchers also varied as to the length of observation. Observation length ranged from 3 ½ min to 2 ½ hr. It is likely that greater observation lengths decrease participant anxiety and allow for more natural relationships to emerge. In terms of the effect of gender on speech, Leaper, Anderson, & Sanders (1998), noted that with a greater length of observation period, mother differences in talkativeness tended to decrease.

The level of researcher-imposed structure differed among studies. In studies such as that by Radke-Yarrow et al. (1992) researchers assigned a specific task. In this study, participants' speech and behaviors were observed as they proceeded through seven short tasks. In studies such as that by Brown and Dunn (1992), the researchers gave little to no direction to participants. Again, structure provides the researcher better control and likely focuses participants so that questions can be answered in a timely manner. However, structure may not allow for the natural unfolding of verbal interactions. For example, the effect was greater regarding mothers' supportive and directive speech to daughters and sons when the activities were structured rather than unstructured (Leaper et al., 1998).

Fourth, studies varied in terms of whether an observer was present during verbal interactions. Those studies that had an observer present attempted to mediate the effect by having a visit with the observer prior to the beginning of the study or by allowing for a certain period of time after the observer arrived before beginning to

record. Those studies without an observer present may be more likely to capture more natural interactions.

Fifth, in those studies that used toys, some researchers provided a set of toys whereas others used the child's own toys. In gender studies when mothers' speech to boys versus girls was examined, mothers talked more to girls and used directives more when toys were provided (Leaper et al., 1998).

Sixth, authors defined terms differently and used different coding schemes. Many of the authors developed their own coding systems. The way in which the particular authors defined and coded verbal interactions likely affected the data. The same term was defined differently by various authors, making comparisons and generalizations difficult.

These six differences indicate that caution must be exercised when making generalizations. It is not this reviewer's intent to suggest that one method is superior to the others. However, as stated above, one method may be better suited to answering a specific question than another method. It is important to know when and how to apply a particular methodology.

Speech of Depressed Mothers

When considering the maternal depression literature as a whole, there are several factors that complicate interpretation and application of the findings. Those concerns that apply to the studies discussed in this literature review will be examined.

The maternal depression literature has suffered from a lack of consistency in defining and measuring depression. One study (Bettes, 1988) measured the current

level of depressive symptoms with such instruments as the Beck Depression Inventory (BDI; Beck, 1987). Use of the BDI is not sufficient to determine a diagnosis of depression. Most other studies in this review used the Schedule for Affective Disorders and Schizophrenia (SADS-L; Spitzer & Endicott, 1977) and the Research and Diagnostic Criteria (RDC; Spitzer, Endicott & Robins 1978) to assess depression. These instruments are considered rigorous and accurate and are sufficient to render a diagnosis of depression.

Severity, chronicity, and recency are three aspects of depression that are likely to affect the environment to which the child of a depressed mother would be exposed. Severity has varied widely between studies, and few studies have controlled for this factor.

Within this review, three studies had participants in the mild to moderate range (Bettes, 1988; Burge & Hammen, 1991; Goodman, Adamson, Riniti, & Cole, 1994). Seven studies had participants in the severe range, as assessed by their SADS-L, RDC, and/or prior hospitalizations (Free, Alechina, & Zahn-Waxler, 1996; Gorden et al., 1989; Hamilton, Hammen, Minasian, & Jones, 1993; Hamilton, Jones, & Hammen, 1993; Jaenicke et al., 1987; Radke-Yarrow, Belmont, Nottlemann, & Bottomly, 1990; Schwartz, Dorer, Beardslee, Lavori, & Keller, 1990). One study (Murray, Kempton, Woolgar, & Hooper, 1993) included women who met RDC criteria for both minor (definite) and major (probable and definite) depression but did not separate them in analyses. One study, Breznitz & Sherman, 1987 could not be classified. Two studies (Tarullo, DeMulder, Martinez, & Radke-Yarrow 1994; Zuravin, 1989) controlled for

severity, and Tarullo et al. (1994) also controlled for recency. No study in this review looked at chronicity. Severity was found to affect outcomes in the two studies that considered it, and recency affected outcomes in the one study that considered it.

Another factor complicating interpretation is the researchers' failure to assess participants for personality disorders (Downey & Coyne, 1990). No study in this review did so. Major depression and personality disorders often occur together. One recent study found that 35% of hospital patients admitted for major depression also had a personality disorder (Downey & Coyne, 1990).

The manner in which depression is manifested varies by type of personality disorder (Millon, 1994). In addition, individuals with personality disorders are more likely to evidence depression characterized by earlier onset, more frequent suicide attempts, and poorer recovery as well as increased life stress (Downey & Coyne, 1990). The environment in which children are raised is likely to vary with the presence or absence of personality disorder when a mother is depressed. Presence of a personality disorder in addition to depression probably indicates a more negative and deleterious environment.

Presence and type of personality disorder may account for the wide variety of difficulties attributed to the depressed mother as well as the wide variety of effects in children. The addition of personality disorder screening as well as the inclusion of personality disordered participants may greatly improve the specificity and predictive power of depression studies.

The Verbal Environment and Mothers

The review of maternal speech is comprised of studies that focus on both normal and depressed mothers. The articles concerning normal maternal speech that will be discussed in this paper are focused on early childhood, primarily infancy through toddlerhood. There appear to be no studies focused on maternal speech to school age, preadolescent, or adolescent children. This is likely due to the fact that researchers have studied maternal speech in the context of child language development, infant bonding, and child emotion development. The majority of these developmental tasks occur in early childhood. Unfortunately, this lack of later childhood studies makes it impossible to draw any conclusions about the effect of speech on development of a sense of self beyond the toddler period. However, studies that concern depressed maternal speech considered the effect of such speech on children from infancy through adolescence. Studies from each stage will be presented in the review.

Well Mothers

Mothers speak to their children, often even before their children are born. Their speech appears to serve a number of different functions, including assisting language development, bonding, emotional development, and the development of the sense of self. Mothers seem to consider their children important partners in dialogue and will adjust their speech in order to maintain interactions. The articles in this section of the paper will be reviewed according to developmental stage, and will include infancy and toddlerhood. No articles are available beyond the toddler period.

Well mothers' speech to infants. During infancy, rudimentary self-representations begin to form in the context of the child's earliest attachment. Maternal speech to infants appears to serve the function of facilitating and maintaining early mother-infant interactions. Mothers are known to make a series of adjustments to their speech that have been labeled motherese. Motherese is characterized by simplified syntax and vocabulary, higher pitch, greater number of repetitions, and exaggerated contours (Goldfield, 1993; Snow, 1977). These speech adjustments appear to be an important part of including the child in the relationship and as an active partner in the dialogue. The infant participates in or initiates dialogues by vocalizations, eye gaze, and body movements. Thus these dialogues appear to be two-way conversations with the mother as interpreter. Several research studies provide evidence for the dialogue between mother and baby and insights as to its importance.

Snow (1977) published one of the seminal works integrating the language development literature and the psychological development literature. She was interested in documenting that mothers speak to their children in a manner that suggested that they considered their children to be capable of conversation. She analyzed the speech of two mothers and their babies at several time points when the infants were between 3 months old and 1year old. Observations occurred in the home and were audiotaped. Snow (1977) analyzed changes in speech complexity, use of interrogatives, percent of declarative and imperative as well as contentless utterances, and temporal references.

Snow (1977) found that mothers' converse with their children in a manner that indicates reciprocal interaction. Mothers sit face to face with their children, ask frequent questions, and greet the child even after brief separations. Maternal use of questions, particularly tag questions, was thought to indicate a passing of the dialogue turn to the child. Mothers did not view the conversations as one way, as evidenced by their belief that infants' body movements and behaviors were intentional and meaningful productions. These productions were considered to be the child's turn within the dialogue. Mothers often spoke to the infant about their interpreted meaning of the behavior, rather than the behavior itself. Mothers were also found to repeat infant gestures and vocalizations by the use of their voice, words, or body.

The reciprocal and synchronous relationship between maternal speech and infant body movement was also demonstrated by Kato et al. (1983). Kato et al. filmed the body movements of 1- to 6-day-old infants ($N = 8$) under four conditions. Infants were exposed to white noise, the speech of a doctor, the speech of a nurse, and the speech of a parent. A computer analyzed body movements and voice.

Infants' body movements were correlated with maternal speech, but not with nonhuman sounds, and this difference was significant, $p < .01$, based on the Mann-Whitney U test. The relationship was shown to be reciprocal. Infants' body movements preceding adult speech also correlated with adults' speech; latency time for adults to respond to infant body movements was, on average, 1.4 s ($SD = .4$ s). Kato et al. (1983) concluded that infants' body movements are, in part, repetitions of the linguistic forms of the parents and that infants influence adult speech.

Stern (1985) also noted that mothers repeat the body movements and vocalizations of infants, but often do so in another sensory format. This repetition was labeled cross-modal matching and was thought to be the basis of affect attunement. Affect attunement was defined by Stern (1985) as the "performance of behaviors that express the quality of feeling of a shared affect state without imitating the exact behavioral expression of the inner state" (p. 142). Stern believed that this sharing of affect states between mother and baby was one of the important prerequisites for forming a subjective sense of self and was the basis for the child's later use of symbols, language.

Rabain-Jamin and Sabeu-Jouannet (1989) continued to study mothers' treatment of infants as partners in dialogue, but added to the literature by examining the maternal use of pronouns within varying semantic contexts, as well as the specific types of infant activities on which mothers chose to focus their comments. The authors looked at six French mother-infant pairs when the infants were 3, 7, and 10 months of age. Dyads were observed and videotaped in their homes on three occasions for a total of 6 hours. Tapes were transcribed, but only maternal utterances that referred to the baby were coded. Pronouns were classified by their semantic context, and were coded as Type I when the child was the subject, the agent of meaningful activity. Pronouns were coded Type II when the child was not an agent but merely reacted, manifesting discomfort or happiness.

Rabain-Jamin and Sabeau-Jouannet (1989) discovered that mothers' speech focused on the reference point of the child. Mothers were often observed switching

between you and I in conversation with infants. For example "You don't like hiccoughs, do you? Oh no. I don't like them!" The authors concluded that by switching pronouns, the mother keeps speech oriented so that the child continues to be the center of the action. This provides the infant the opportunity to learn pronouns from his or her point of view. Pronoun shifting by mothers demonstrated conversational turn taking and identified infants as active participants in the discussion. Such pronoun shifting also indicated that mothers considered their infants to be dialogue partners and shifted reference so as to continue the conversation. Mothers attributed meaning and intent to their children's behaviors.

Rabain-Jamin and Sabeu-Jouannet (1989) also found that at different infant ages mothers focused conversations on different infant attributes. When the infants were 3 months of age, 42.7% of the content of mothers' utterances to the infants focused on the infants' affect and physiological activity, but by the time infants reached 7 months of age the focus shifted so that 31.8% of the mothers' utterances focused on themes of perception, volition, and psychological activity. When infants reached 10 months of age, the focus again shifted so that mothers commented most often on goal-directed activity of the infant, an average of 28.6%. Mothers seemed to be showing an awareness of the psychological development occurring within their infants. Their speech indicated that they attributed an identity to the infant. How the mother framed these capabilities likely has much to say about how the child would frame them.

Rabain-Jamin and Sabeau-Jouannet (1989) also found that mothers most often used second person pronouns when speaking about perception, volition, and psychological activity as well as goal-directed activity. You accounts for 68.1% of perception comments, 100% of volition comments, 94.1% of psychological comments, and 64.4% of goal-directed comments when infants are 10 months of age. The use of you imputes a sense of will or intention.

Brousseau et al. (1996) also studied the relationship between mothers' speech and infant interactive behaviors, but expanded the literature in terms of the functions of specific types of maternal speech. This team of researchers was particularly interested in the functions of maternal lexical speech versus those of maternal nonlexical speech. Nonlexical speech is speech that does not include words but contains emotional exclamations; musical, rhythmic, and imitative sounds; laughs; calls; and isolated question tags.

Brousseau et al. (1996) observed 14 mothers and their 4-month-old infants in a laboratory setting. The infant was placed in an infant seat, and the mother was told to interact as she normally would. Interactions were ended when the infant became disinterested. Interactions were videotaped and were also observed from behind a one-way mirror. The authors analyzed a 3 ½ min segment and then coded the interaction. Infant reactions were coded in one of four categories: (a) looked at mother, (b) positive expression, (c) joint attention, and (d) looked away. Maternal speech was coded in one of six categories: (a) phonemic utterances with lexical content, (b)

phonemic utterances without lexical content, (c) nonphonemic vocalizations, (d) laughter, (e) whispers, and (f) pauses.

Brousseau et al. (1996) found that the maternal utterances without lexical content were related to the affective components of infant engagement. Mothers produced longer utterances of this type when infants were positively engaged with them, F (3, 230) = 5.40, $p < .01$, and such utterances likely served to maintain positive engagement.

Mothers used speech with lexical content when the mother and child were engaged in a joint activity and the child's engagement was of intermediate length, F (3, 159) = 2.74, $p < .05$. When the child looked away for longer than 4 s, the mother tended to increase her lexical speech, F (3, 235) = 2.63, $p < .05$. These two uses of lexical speech suggest that they function to give information to the infant or gain the attention of the infant. At times, mothers also gave their infants a break in the interaction. Infants' pauses of long duration were related to mothers' pauses, F (6, 274) = 3.76, $p < .01$. Mothers reduced the rate and intensity of their speech when infants looked away. With infants, the paralinguistic features of speech serve to engage and maintain positive interactions. This study indicates that different aspects of maternal speech appear to serve different functions in the mother-child relationship. Papousek et al. (1987) also noted that the non-lexical aspects of speech serve several functions including gaining attention, soothing the infant, or expressing emotion.

These studies suggest that normal mothers of infants consider their children to be partners with whom they are interested in conversing. Mothers speak and infants

respond with body movements and behaviors to which the mother attributes meaning and views as the child's turn in the dialogue. Even when the infant does not noticeably respond the mother will speak for him or her, using pronoun switching. These conversations appear to serve the function of facilitating bonding between mother and infant. Over time, the mother changes the focus of these dialogues to capture the changing capabilities of her infant. Infants are receiving a great deal of information about the self from both the quality and content of maternal speech, prior to their ability to understand and use language.

Well mothers' speech to toddlers. During the toddler period, mothers continue to dialogue with their children, but children begin to use words in addition to gestures and behaviors to communicate with their mothers. With toddlers' increasing linguistic skill, they become capable of forming symbolic self-representations. Both manner and content of maternal speech is likely to affect this process.

The studies reviewed in this section address the impact of maternal speech on toddlers' development in four areas including the effect of maternal speech on intellectual development, fantasy play, emotion, and self-conceptions. The articles in this section are organized by area of development, rather than chronologically and are presented in the order stated above.

Laks et al. (1990) studied the relationship between maternal use of personal pronouns and children's intellectual competence at 5 and 8 years of age. Their sample consisted of 2-year-olds who had been premature at birth and their mothers (N = 46). Mother-child pairs were observed in the home during an unstructured task for 50

minutes. Observations were audiotaped, and the number of personal pronouns used by both mother and child were tabulated. Mean length of utterance and maternal verbal responsiveness were also calculated. Maternal responsiveness scores were derived by counting the number of times the mother responded when her child spoke. Developmental and intelligence tests were administered: at 24 months of age, the Receptive Language Test; at 25 months of age, the Bayley Scales of Infant Development; at 5 years of age, the Stanford-Binet Intelligence Test; and at 8 years of age, the Wechsler Intelligence Scale for Children.

Laks et al. (1990) reported that maternal speech was related to some of the demographic variables. Mothers were somewhat more responsive and used more first person singular pronouns and more first person plural pronouns with girls than with boys, ts (44) = 1.81 and 1.92, respectively, $ps < .10$ and .05, respectively. They also were more responsive to and talked more to first-born than later-born children, ts (44) = 3.41 and 3.71, respectively, $ps < .001$. It is interesting to note that the verbal environment provided by mothers may be distinguishing between boys and girls and first- and later-born children from an early age. The premature status of the infants as well as the fact that first- and later-born children were not in the same family make it difficult to generalize from these findings.

Laks et al. (1990) also discovered that mothers talked more to children who themselves talked more and that only use of the pronoun we was related to the child's language skill level, $rs = .52$ and .46, respectively, $ps < .001$. Mothers who used we

and who were more responsive to their children had children who performed better on intelligence tests at both 5 and 8 years of age.

The authors concluded that the use of the personal pronoun we indicated a shared relationship between mother and child, fostered by the mother's words and verbal responsiveness to her child. The use of we may indicate a mother's willingness to engage with or identify with her child. In essence, she is welcoming her child to share psychological space. Mothers' inclusion of their children in this way likely contributes to the establishment of trust, safety, and a secure base and appears to foster their intellectual development.

Children's play maintains an important role in the development of symbolic self-representations. Play assists children in the transition from the concrete to the symbolic and helps make connections between thinking and feeling. While playing, children can experiment with different roles, facets of self, feelings, and experiences, and the way in which a mother responds can facilitate, reinforce, or shut down transitions from experience to thought (Greenspan, 1997). Mothers' speech is one aspect of responding to children and provides them with a great deal of information about the acceptability of developmental themes, emotions, and coping mechanisms (Greenspan, 1997).

Kavanaugh et al. (1983) studied the variation in mothers' fantasy speech to children in three different age groups: 12 to 15 months, 18 to 21 months, and 24 to 27 months (N = 24). The authors sought to determine the frequency of fantasy speech to

young children and its role in maintaining fantasy play. Fantasy speech was defined by the authors as attributions about the supposed or pretend states of persons or objects.

The dyads were observed during a 40 minute free-play session that occurred in the participants' homes. Language that was judged as fantasy-related was coded using the author-developed categories. Mothers' fantasy speech was coded in three categories: comments, requests, or replies. Comments included nonliteral speech about a visible object or speech about an imaginary object. Comments would be classified further as animate attribution, inanimate attribution, or imaginary reference. Requests were coded when the mother asked the child to maintain or extend the play by adding a new fantasy element. Replies were coded when the mother replied to the child's fantasy play or speech. They were further classified as repetition or description.

Kavanaugh et al. (1983) discovered that mothers almost always initiated fantasy play with 12- to 15-month-olds. Mothers in this group most often commented (99.68% of the time), never made a request to continue, and replied only once. These mothers most often talked about the feelings or actions of animate objects and the functions of inanimate objects (100% of their comments) and frequently repeated their utterances. Only 28% of their comments involved distinct utterances. Children rarely initiated or participated.

Mothers of 18- to 21-month-old children also initiated and frequently attributed feelings, actions, or functions to animate and inanimate objects, but expanded their talk to include new information rather than just repeating what was previously said, $\underline{f}$ = 53% of distinct attributions. These children were more involved in

the play; their mothers made 18 replies, but the mothers guided the play and elaborated themes. Children 24 to 27 months old showed the greatest participation in the play, but their mothers still often initiated and elaborated.

Mothers seem to extend to their children an invitation to play, to leave the world of the literal and enter the world of the possible. Mothers not only extend the invitation, but also help children to develop more complex, elaborated themes and stories, as they are developmentally able. Kavanaugh et al. (1983) concluded that mothers "showed how fantasy can be used to construct episodes and themes that enrich play with objects" (p. 55).

Mothers also assist their children in the transition from action to thought by helping children put their emotions into words. The acquisition of emotion language by children marks an important step in development. Emotion language provides young children with a new understanding of emotions that allows them to communicate more precisely and more complexly, and allows them to receive feedback from others in their environment (Bretherton, Fritz, Zahn-Waxler, & Ridgeway, 1986; Kopp, 1989). Emotion language also allows for reflection upon and discussion about emotion, connoting a new level of intersubjectivity (Bretherton et al., 1986; Stern, 1985). Emotion language also facilitates connecting emotions with causal events and facilitates new ways of managing affect (Kopp, 1989).

Children's ability to verbalize and regulate affect is likely related to mothers' ability to do so. Mothers' speech about feelings seems to provide children with

opportunities to learn to understand, verbalize, and express emotions in the context of family and peer relationships.

Denham et al. (1992) concluded that mothers who accurately labeled emotions and who repeated children's emotional language had children who more accurately labeled emotions and who displayed increased comprehension of an affective stimulus. They studied 33- to 56-month-old children and their mothers (N = 46) in a laboratory setting as they completed a series of tasks. Children were administered an emotional labeling task at preschool and were observed during free play to measure the level of understanding and interpersonal control. Emotions were coded as to function and frequency of discrete terms.

Denham, Zoller, and Couchoud (1994) found that mothers who discussed causes of emotions had children who were more able to discuss causes 1 year later. The authors observed preschoolers (N = 47) interacting for 1½ hr in a laboratory setting. Free play was followed by structured play in which mothers were asked to help children complete several tasks. Children were then administered emotion understanding tasks in a preschool setting.

Dunn, Brown, and Beardsall (1991) also considered the relationship between children's emotional competence and mother-child conversations. Their sample consisted of mothers and their two children, one child age 3 years (N = 41). Children were observed in their home for 1 hour each by a live observer, while they were conversing with both mothers and their older siblings. Interactions were unstructured. Speech that referred to feelings was coded. Each conversational turn—all of one

speaker's utterance bounded by another speaker's utterance—was coded along five domains. The coder recorded who was speaking, the referent, the theme, disputes, causal reference, and pragmatic context. Pragmatic context referred to the explicit or inferred intention of the speaker. This category was further coded in three subcategories: self-interest, discussion/pretend, and influencing affect. Mean length of utterance and total talk—the number of conversational turns—were also recorded. Intercoder reliability as measured by Cohen's kappa ranged from .73 to .94.

When target children were 6 ½ years of age, they were administered the Rothenberg Test of Social Sensitivity to determine their ability to identify others' emotions. The test assessed the child's ability to identify the feelings of a character in tape-recorded scenarios as well as the changes in feeling the character experienced over the course of the story.

The researchers discovered that during conversations, mothers commented with the same frequency on both the feelings of others ($\underline{M}$ = 3.8 references/hr) and the feelings of the child ($\underline{M}$ = 3.9 references/hr), and that children commented most on their own feelings ($\underline{M}$ = 3.6 references/hr). Children and mothers who talked about a greater variety of emotions also engaged in more causal discussion and were more likely to have conversations that involved disputes $\underline{r}$s = .85 and .66, respectively, $\underline{p}$s < .05. In addition, of causal discussions that did take place 67% took place during disputes. Discussions that included both cause and disputes may influence children to reflect upon and understand others' perspectives as well as their own.

The researchers then measured the social sensitivity of these children three years later. The target children from families who talked more about feelings more often accurately identified the emotions of an unfamiliar adult than did target children from families who talked less about feelings, $r = .42$, $p < .05$. These children appear to be developing social understanding, but not necessarily empathic or prosocial behavior.

Denham and Auerbach (1995) addressed the question of how maternal feeling talk relates to prosocial behavior. The authors observed conversations between 33- to 56-month-old children and their mothers ($N = 47$) while they were reading a book with characters who experienced emotion on every page. Maternal and child emotion language was coded for the specific emotions, the valence of the emotion, and the function of the emotion. Classroom observation and a structured interview measured children's emotional competence.

Denham and Auerbach (1995) found that mothers who talked more about emotions had children who displayed greater socio-emotional competence than children whose mothers talked less about emotions. Mothers who used more emotion language, more causal explanations, and more questions had children who used more emotion language than children whose mothers used less, $rs = .29$, .34, and .49, respectively, $ps < .05$, .01, and .001, respectively.

Mothers who used more socializing language had children who were somewhat more fearful than children whose mothers used less socializing language, $r = .26$, $p < .10$, and mothers who used repetition had children who were less happy than

children whose mothers did not, $r = -.29$, $p < .05$. Maternal questions were a good predictor of children's causal understanding, $r = .191$, $p < .05$, and maternal socializing language, negatively weighted, was a good predictor of children's ability to label emotions correctly, $R^2 = .229$, $p < .01$. Perhaps mothers who used a teaching tactic of questioning without judging the emotion had children who had increased affective knowledge.

Children's ability to match and empathize with the emotions of their peers—labeled interpersonal control by the authors—was related to certain aspects of maternal speech. Matching peers' positive emotions was predicted by maternal guiding language, ($R^2 = .189$, $p < .05$) and matching negative emotions was predicted somewhat by maternal guiding language, $R^2 = .141$, $p < .10$.

Children's ability to respond to their peers by helping was related to their mothers' ability to ask questions, $r = .30$, $p < .05$, discuss fear, $r = .35$, $p < .01$, and discuss sadness, $r = .29$, $p < .05$. Children's ability to show concern was related to the mother's ability to discuss love, $r = .29$, $p < .05$, and somewhat negatively related to their use of anger terms, $r = .27$, $p < .10$.

In general, maternal discussion of emotion language is related to children's ability to label and discuss emotions as well as the facilitation of the move from experience of emotion to symbolic representation of emotion. Emotion is one of many domains of functioning for which the mother can facilitate representation. Other aspects such as autonomy, agency, competency, and gender identity are examples of some of the many developmental domains a mother can impact. Wylie (1990) adds to

the literature by examining maternal speech about many of the areas. The author discovered that the mothers in two studies made a large number of attributions to their 2-year-old children during 2 1/2 hour (N = 3) and 35-minute (N = 35) samples.

Wylie (1990) videotaped the dyads in a research apartment while they were participating in a series of research conditions. Mothers and children were observed when a strange adult was present; when the mother was preparing to leave the child with a stranger; when the mother returned; and when the mother and child were engaged in eating, free-play, reading, resting, doing a block task, and looking at pictures of babies expressing different emotions. Tapes were transcribed with information about mother's, strange adult's, and child's speech; paralinguistic behaviors; situational characteristics; and general behaviors.

Wylie (1990) developed an elaborate coding system for identifying and classifying attributions. Four coders then coded each attribution along eight dimensions, including the opportunity for the child to learn self-relevant language, its lexicon of child-applicable words, its substantive content, its explicit/implicit nature, its evaluative level, accompanying paralinguistic behaviors, its direction toward the total child or an aspect of the child, and what occasioned it. Intercoder agreement ranged from 84% to 100% percent.

Wylie (1990) found that maternal attributions were specific, 52% in Study 1 and 44% in Study 2, yet most often implicit, 76.2% in Study 1 and 81.8% in Study 2. Mothers provided the child with language that described specific aspects of self-experience.

Mothers also tended to comment on a variety of feelings and experiences from name, to gender, to aggression, to cognitions. The most frequently addressed categories were cognition (31.9% in Study 1 and 25.3% in Study 2), power—the ability to make acceptable choices—(19.5% in Study 1 and 16.7% in Study 2), and competencies (16.1% in Study 1 and 21.0% in Study 2). Mothers' attributions were primarily positive (60.4% in Study 1 and 62.8% in Study 2). Mothers were found to talk to their children as if the children had self-knowledge.

The children in this study (Wylie, 1990) were provided many opportunities to learn self-relevant information from their mothers' speech, information that may contribute to the manner in which the children later describe themselves. Radke-Yarrow, Nottlemann, and Bottomly (1990) furthered the descriptive study of Wylie by studying the impact of maternal attributions on children's self-conceptions.

Radke-Yarrow et al. (1990) examined the relationship between maternal verbal behavior and 25- to 36-month-old children's self-conceptions (N = 35). The sample consisted of both well and depressed mothers. Findings from well mothers will be discussed here.

The dyads were observed in a research apartment on two occasions, 1 week apart for a total of 2½ hour. The dyads were presented with seven research conditions including eating lunch, mother teaches a block task, mild stress due to mother's brief departure, reunion and free time, mother tells child of a doctor exam, mother and child wait, the exam takes place. Sessions were videotaped and transcribed, and mothers' verbalizations directed to or made about the child were coded.

Radke-Yarrow et al. (1990) coded mothers' comments about their children into 1 of 12 broad categories that related to domains of self-functioning. For example, if the mother said, "You're good at Legos," this attribution would be placed in the instrumental/motor competency category. If a mother said "She helps me with the dishes," this would be placed in the prosocial/moral characteristics category. Evaluative tone and quality of the mother-child interaction were also coded. Intercoder agreement ranged from 79% to 95%.

Radke-Yarrow et al. (1990) found that mothers frequently labeled aspects of their children's self-experience. In 35 min, well mothers made an average of 330 (SD = 128) implicit attributions and an average of 74 (SD = 34) explicit attributions. These statements most often labeled children's ongoing behavior and were repeated quite frequently. Mothers also frequently commented on developmentally prominent issues such as cognitive advances (36% implicit, 46.8% explicit), increased instrumental competencies (18.3% implicit, 27.7% explicit), self-determination (22.3% implicit, .2% explicit), and increasingly differentiated identity (10.6% implicit, 5.2% explicit). Well mothers' comments were primarily positive (M = 68%). Higher numbers of self-references were made by children whose mothers made a high number of and variety of attributions r (35) = .47, $p < .002$, and a greater variety of self-references was seen in children whose mothers had a higher quality of dialogue r (35) = .36, $p < .02$. Children had more positive self-evaluations when their mothers made more positive attributions to them.

These two studies indicate that mothers' speech provided frequent and repeated opportunities for children to learn to label aspects of self-experience. It also appears that the manner in which the mother discusses her child's self experiences impacts the way the child discusses the self. Children had more positive beliefs about themselves when their mothers made more positive attributions to them.

The literature concerning maternal speech to toddlers' demonstrates that maternal speech impacts toddlers' intellectual, play, and emotional development as well as toddlers' self-representations. Mothers who provide a verbal environment that conveys inclusiveness and promotes symbol formation have children who score higher on measures of intellectual and social development. In addition, mothers who speak more frequently and more positively about aspects of their children's self development have children who speak more frequently and positively about their self-development.

Maternal conversations with children: The effect of gender. Mothers' speech to children appears to vary with child gender as was noted in Laks et al. (1990) in the previous section. Laks et al. (1990) discovered that mothers were more responsive and used more first person singular pronouns and more first person plural pronouns with girls than with boys, ts (44) = 1.81. Variations in mothers' language to girls versus boys merits further investigation because such differences likely have implications for children's self-development, particularly in the area of gender symbolic self-representations. Three studies examined the use of mothers' emotion language in the context of child gender (Cervantes & Callanan, 1998; Fivush, 1989; Leaper et al., 1998).

Fivush (1989) analyzed the conversations of (N = 18) dyads consisting of one 30- to 35-month-old child and the mother to determine if child gender influenced the way that dyads discussed the emotional aspects of past experience. Fivush went to the participants' homes and instructed them to discuss an event that they thought their child would like to remember. Sessions lasted for 30 to 40 minutes. Conversations were coded in two phases. First, the number and type of emotion words were calculated. Next, conversations about emotions were coded. There were three broad conversation categories. The first category, single utterances, included any utterance in which one speaker mentioned an emotion but the other did not respond. This category was further broken down into attribution (in which a speaker mentions emotion, but the other does not respond), comment (in which the tone of an event is contained within a long comment), or mnemonic cue (in which an emotion is used to cue recall). The second category was attributional conversation in which an emotional state was discussed without reference to cause or consequence. This category was divided into three subtypes: confirmation of emotion (in which the second speaker confirms the emotional attribution of the first), elaboration (in which the second speaker elaborates the emotion discussed by the first), or negotiation (in which the second speaker disagrees with the attribution of the first). The third category was labeled explanatory conversation in which the causes or consequences of emotion were discussed by the speaker. Intercoder agreement was 90%.

Fivush (1989) found that during conversations about the past, mothers used proportionally more positive than negative emotion words with daughters and

approximately an equal amount of positive and negative terms with their sons. When speaking to daughters, 73% of emotion words were positive, but, with sons, only 50% of emotion words were positive, a difference that approached significance, t (1,14) = 3.31, $p < .09$. When using negative emotion terms, 70% were used to refer to sons, but only 27% were used to refer to daughters. When mothers used emotion terms with daughters, they used them to refer to someone other than their daughters, but mothers did use them to refer to sons, Fs (1, 14) = 26.08 and 7.84, respectively, ps < .001 and 05, respectively. Mothers in this study never used angry when referring to their daughters, but with sons, when negative emotions referred to the child, angry was used 21% of the time.

While conversing about positive emotions, mothers of daughters elaborated upon the children's statement (11 instances) and confirmed the accuracy of the children's emotions (5 instances), whereas mothers of sons confirmed only (11 instances). When discussing negative emotions, mothers elaborated upon both sons' and daughters' statements (5 and 3 instances, respectively). When discussing negative emotions, mothers of sons often confirmed (7 instances), but mothers of daughters did not confirm. Mothers and daughters almost never discussed causes or consequences of emotions. However, most of the mothers and sons did discuss cause and consequence (12 instances), and most of these conversations (83%) focused on negative emotions. Mothers of daughters appeared to focus on the emotional state itself.

Boys and girls appear to be socialized differently in regard to the use of emotion language. Daughters seem to be learning to focus more on positive emotions

and to attribute negative emotions to other people. In particular, they may be learning that anger is not an acceptable emotion for girls. Mothers seem to teach daughters to focus on the experience of the emotion itself, a more relational focus, whereas mothers of sons appear to teach more emotional control tactics.

Cervantes and Callanan (1998) also found that maternal speech differentiates sons and daughters. The authors analyzed the conversations of 2-year-old, 3-year-old, and 4-year-old children (N = 84) and their mothers to determine how age and gender affected emotion talk. Only the gender findings will be discussed here. Eighty-one of the 84 dyads were observed in the lab. Three could not gain transportation and were observed in the home. The dyads participated in two activities that included 10 minutes of free play and then 20 minutes of a storytelling activity using Lego blocks. The investigators presented the outline of the story. It included the parent going away overnight and leaving the child with someone else. The dyads were given four emotional events, not specified in the article, and the dyads were asked to add whatever details they would like.

Emotion words were identified in conversations and were then coded in two parts. Emotion words were coded for context. The two possible contexts were labeling utterances and explanation utterances. Labels were those that referred to the emotion of a person or event without giving causal explanation. Explanations were those giving or asking for causal information. Second, explanations of emotion words were coded for their focus in one of four possible subcategories. Cause was coded when the speaker asked about the cause of the emotion. Result was coded when the speaker

mentioned or asked about the behavioral result of an emotion. Intervention was coded when the speaker mentioned or asked about an intervention related to an emotion or an action that distracted from the emotion. Elicitation was coded when the speaker requested an explanation without giving causal information.

Cervantes and Callanan (1998) found that the mothers of boys tended to explain (M = 6.48) rather than label (M = 4.90) emotions, F (1, 72) = 4.26, $p < .04$, whereas the mothers of girls tended to label rather than explain emotions with their girls, F (1, 72) = 3.76, $p < .06$. Different types of maternal emotion talk were related to boys' and girls' emotion talk, and the total number of maternal explanations related to both girls and boys emotion talk, rs = .32 and .36, respectively, ps < .05.

Girls talked more about emotions when mothers used elicitation, r = .42, $p <$ .01, whereas boys talked more about emotions when mothers focused on causal explanations, r = .40, $p < .01$. Although boys' emotion talk was not significantly correlated with elicitation, r = .08, and girls' emotion talk did not significantly correlate with causal explanations, r = .20, this prior finding is questionable since differences between boys and girls were not statistically significant. This study (Cervantes & Callanan, 1998) indicates that girls and boys may be socialized to discuss emotions in different ways, confirming the findings of Fivush (1989).

When addressing aspects of children's self-experience, Radke-Yarrow et al. (1990; previously reviewed) found that, in well mothers' speech to toddlers, mothers made purely negative comments more often to boys ($M_{percent}$ = 34) than to girls

($M_{percent}$ = 24), F (1, 31) = 6.38, p < .02. Mothers also made purely positive comments more to girls ($M_{percent}$ = 29) than to boys ($M_{percent}$ = 23), F (1, 31) = 4.51, p < .05.

One meta-analytic study (Leaper et al., 1998) considered both gender of the parent as well as gender of the child on parents' speech to their children. Leaper et al. conducted two meta-analyses: one that compared parents' speech to daughters and sons, and one that reviewed the effect of child gender on maternal speech. Findings related to child gender effects on maternal speech will be discussed in this review.

To be accepted for the meta-analysis, studies had to be published in research journals or books. They also had to use quantitative measures, and they had to test for either parent or child gender effects on parents' verbal behavior. The authors examined several areas including amount of talking, supportive speech, negative speech, directive speech, information giving, questions, publication characteristics, sampling and measurement procedures, and the interactive context to determine their effect on observed gender differences.

The authors used Mullen's (1989) meta-analysis software. It rendered funnel plots of effect sizes by sample sizes, combined effect sizes across studies, and focused comparison tests of effect sizes on blocked and continuous moderator variables. Z was used to test the significance level of central tendencies, and Fisher's Z and Cohen's d were used as measures of effect size. Cohen's d was considered a small effect at .2, a medium effect at .5, and a large effect at .8.

Leaper et al. (1998) found that, in general, mothers tend to be more talkative with daughters than with sons when total words or rate of speech rather than duration

or complexity of speech was considered, $Z = 3.04$, $p < .01$. Mothers also tended to use more supportive speech with daughters than with sons, $d_{weighted} = .22$. Mothers tended to use more directive speech with daughters than sons during problem-solving tasks, $Z = 2.34$, $p < .01$, and this difference was greater when the children are school age than it was when the children were toddlers, $Z = 2.34$, $p < .01$. However, when the interactive context involved choice of toys, mothers used more directives with sons than daughters, $d = .23$.

These studies indicate that well mothers appear to provide different verbal environments for daughters and sons. With girls they seem to be more relational and inclusive, talking more to their daughters and using the pronoun we more frequently. Well mothers also focused more on positive emotions and never used anger to refer to their daughters. They focused on discussion of an emotion, rather than on control of emotion. With sons, on the other hand, they focused more on control of emotions and allowed for discussions of negative emotions and aggression in sons.

Depressed Mothers

Having a depressed mother has been associated with higher rates of psychopathology as well as increased risk for deficits in intellectual, social, and emotional functioning in children (Beardslee, Schultz, & Selman, 1987; Cichetti, Rogosch, & Toth, 1998; Downey & Coyne, 1990; Field, 1998; Radke-Yarrow, Belmont, Nottlemann, & Bottomly (1990); Radke-Yarrow, Nottlemann, Belmont, & Welsh, 1993; Radke-Yarrow, Nottlemann, Martinez, Fox, & Belmont, 1992;

Weissman, Warner, Wickramarante, Moreau, & Olfson, 1997; Zahn-Waxler, Kochanska, Krupnick, & McKnew, 1990). Infants of depressed mothers, compared to those of well mothers, have been found to perform less well on cognitive tasks, are rated as more tense and less content, and deteriorate more quickly in a testing situation (Whiffen & Gotlib, 1989). They are more likely to have difficulties regulating their behavior, physiology, and biochemistry (Field, 1998). Infants of depressed mothers also spend a smaller amount of time in a positive emotional state and more often fail to respond to their mothers when their mothers attempt to elicit a response (Zekowski, O'Hara, & Wills, 1987). Infants of depressed mothers may have learned that their efforts to initiate have failed to bring about desired reinforcers, leading to apathy and an increased sense of helplessness (Zekowski et al., 1987).

Toddlers of depressed mothers are more likely to be insecurely attached (Cichetti et al., 1998). They also spend more time in sustained periods of negative affect (Radke-Yarrow, Nottlemann, Belmont, & Welsh, 1993) and have more difficulties maintaining coordinated interactions (Jameson, Gelfand, Kulcsar, & Teti, 1997).

Downey and Coyne (1990) indicated that school age children of depressed parents, including adolescents, show higher levels of treatment for a psychiatric disturbance, an increased rate of internalizing and externalizing disorders, academic difficulties, poorer adjustment, and social deficits. Weissman et al. (1997) found that school age children of depressed parents are at greater risk for major depressive

disorder, anxiety disorders, alcohol dependence, and social impairments during preadolescence to early adulthood.

Affective disorder has been found to affect an individual's speech to other adults. Murray et al. (1993) referred to several studies that indicate rate, content, voice quality, pitch, and intonation are affected by depression. If speech varies as a function of depression when depressed individuals are speaking to adults, then it is reasonable to hypothesize that depressed mothers' speech to their children might also be affected and that these variations of speech will, in turn, influence aspects of the parent-child relationship as well as the children's development.

Speech to Infants

Maternal speech to infants is important in gaining and maintaining infant attention and fostering interactions that appear to serve as the foundations for presymbolic self-representations. If depression affects maternal speech to infants, it may also negatively impact this early, important process. Since motherese appears to be vital to the early mother-infant relationship, studying the effects of maternal depression on this form of speech may provide more precise information on the nature of problems between depressed women and their children.

Two studies have addressed the effect of depression on maternal speech to infants. Bettes (1988) studied the speech of mothers to their 3 to 4-month-old infants (N = 36). Depression was measured by the Beck Depression Inventory (BDI), and 10 of the mothers met the criteria for inclusion in the depressed group. The mothers' depression was in the mild to mild-moderate range, as indicated by a score of 10 to 18

on the BDI. Observations took place in the home, were tape recorded, and were 3 to 15 minutes in length. Two-minute samples were coded to capture both pauses and vocalizations. Reliability for coding was above .90 for all categories.

Bettes (1988) discovered several differences between the speech of depressed and nondepressed mothers. Both temporal and intonational aspects of speech differentiated the depressed and nondepressed groups. Depressed mothers took more than twice the time of nondepressed mothers to respond and had significantly longer responses, ts = 3.30 and 2.06, respectively, ps < .003 and .05, respectively. They also showed more variability in latency of pause. The difference between depressed and nondepressed standard deviations was significant, t = 2.14, p < .04.

Depressed mothers also failed to modify the temporal aspects of their speech to meet the needs of the situation. They did not significantly change their speech, whether responding to infants or not responding to infants, whereas normal mothers did. Maternal speech within the nondepressed group was shorter (t = 2.72, p < .012) and the mean duration of pause was briefer (t = 6.36, p < .001) when they were preceded by an infant vocalization. This pattern did not appear when there was no infant vocalization.

Depression was also related to a greater mean length of pause (r = .40, p < .01), greater variability of pause (r = .38, p < .05), longer mean length of utterance (r = .34, p < .05), and greater variability of utterance (r = .36, p < .05). In addition, the more depressed a woman was, the less likely she was to exaggerate her intonation. One fourth of depressed maternal speech lacked exaggeration whereas 12% of

nondepressed women lacked an exaggerated speech, $t = 4.01$, $p < .001$. Again nondepressed mothers made greater adjustments in intonation, with more exaggeration when responding to infants than when not, $t = 8.12$, $p < .001$. These differences did not appear in the depressed group. Bettes (1988) demonstrated that even mildly depressed mothers show evidence of differences in temporal and intonational aspects of speech and fail to adjust their speech in response to their infants' vocalizations

Murray et al. (1993) also studied depressed mothers' speech to their infants to determine its effect on cognitive development. Their sample consisted of 59 mothers: 20 with no evidence of depression, 29 who experienced their first episode of depression after the birth, and 10 who had a history of depression, but no evidence of depression since the birth. Infants were 8 to 11 weeks old and were observed interacting with their mothers in a research lab. Speech transcripts were coded blind to maternal group. Maternal speech was coded along 5 dimensions, including complexity of speech, syntax, focus of speech, negative affect, and ascription of agency. Coding reliability ranged from $r = .88$ to $r = .98$. Infants were administered the Bayley Scales of Mental Development when they were 18 months of age.

Murray et al. (1993) found that the structural aspects of speech, complexity, repetition, and syntax failed to differentiate the three groups but that the content of speech did differ by group. Focus of speech, negative affect, and ascription of agency did differentiate the groups, Fs = 4.19, 6.25, and 3.11, respectively, ps < .03, .005, and .06, respectively. Postpartum depressed mothers expressed more negative affect (M = 10.8%, SD = 7.7%) than either the control women (M = 4.3%, SD = 5.5%) or

previously depressed women (M = 6.8%, SD = 7.9%). Negative affect included maternal utterances that contained criticism, negative statements, and corrections. Depressed women's speech also tended to be less infant-focused and ascribed agency to their infants less often. There was a significant interaction between infant gender, focus, and diagnosis, $F = 7.58$, $p < .002$. Depressed mothers' speech was least infant-focused when speaking to male infants in contrast to control women who showed the most infant-focused speech to male children.

The interaction between diagnosis and infant gender was a better predictor of Bayley Scale Scores than were diagnosis and gender separately, $F(2, 46) = 3.66$, $p < .04$. This indicates that male infants of postpartum depressed mothers had lower scores on the Bayley Scales of Infant Development than did female infants, the opposite being true in the nondepressed groups. Higher infant-focused speech at 2 months was strongly associated with higher scores on the Bayley Scales at 18 months of age, $t = 3.56$, $p < .01$.

Both Bettes (1988) and Murray et al. (1993) found significant differences between the speech of currently depressed mothers and the speech of control group mothers. Bettes's study focused on differences in speech structure, whereas Murray et al. discovered more content differences. Although Murray et al. found that the structural aspects of speech did not differentiate his groups, the structural aspects that he chose to study were different than those of Bettes, with one exception. Both studied the length of utterance, with Bettes finding that utterances were longer in the depressed group.

In general, however, these two studies (Bettes, 1988; Murray et al., 1993) complement one another and show that both the structure and content of speech to children is affected by depression. Structural differences seem to have implications for interactive sequences. Mothers who are slower to respond and who do not evidence exaggerated intonation may have difficulties activating and maintaining infant engagement. Content differences seem to have implications for the tone of interactions between a mother and her infant, with negative, critical speech predominating. These differences are likely to have significant effects on the formation of presymbolic self-representations. If negative, nonreinforcing interactions occur between depressed mothers and their infants, it is likely that those core feelings about self and other will be negative.

Speech to Toddlers

Toddlers' rapidly developing language provides them with a tool that helps them begin to define themselves and the world around them. Language also facilitates clearer more direct communication with others in the toddler's world. The content and structure of maternal language during this period has important implications for the particular language a child develops to define the self and the child's world. If a mother is depressed during this period and her depression affects her speech, it may have significant ramifications for the formation of symbolic self-representations.

Three studies address the speech of depressed mothers to their toddlers. Breznitz and Sherman (1987) studied 32 mothers, 14 with a history of depression as measured by the Schedule for Affective Disorders and Schizophrenia (SADS-L), and a

psychiatric interview. Eighteen mothers had no history of psychiatric illness. Children were 3 years old and were studied in an apartment setting during three half-day visits. They were observed for 5 minutes during three different interactions: mother preparing lunch, child and mother eating lunch, and waiting to visit a doctor. This last setting was to determine the effect of mild stress on maternal speech.

Speech was analyzed by the Automatic Vocal Transduction Analyzer (AVTA), an instrument that analyzes the sound and silence patterns of speech. The authors focused on two AVTA measures: the total sum of vocalization, which is the total time of speaking, and the average length of switching pauses, which is the average time between the point one speaker finishes speaking and the point the other speaker begins speaking.

Breznitz and Sherman (1987) discovered that depressed mothers' total amount of speech was significantly less than that of well mothers, $t = 3.15$, $p < .002$. Depressed mothers also took longer to respond to their children after their children had finished speaking than did well mothers, $t = 1.40$, $p < .09$. During the mildly stressful situation, depressed mothers increased their amount of speech in contrast to normal mothers who reduced their amount of speech, $t = 3.15$, $p < .002$. Depressed and well mothers both reduced the amount of time they took to respond to their children's speech, but depressed mothers reduced this time even more than well mothers, $t = 1.83$, $p < .04$. During stressful situations, the children increased their amount of speech and decreased the length of the pause between their mothers' speech and their own. Fs $(1, 60) = 9.59$ and 58.10, respectively, ps $< .003$ and .001, respectively. However, this

change in vocalization and switching pause was greater in the children of depressed mothers than in the children of well mothers, Fs (1, 60) = 8.14 and 6.74, respectively, ps < .006 and .01, respectively. In addition, the total amount of speech was significantly less in the children of depressed women, F (1, 60) = 88.17, p < .001.

Breznitz and Sherman (1987) concluded that, in both stressful and nonstressful situations, children of depressed women are exposed to speech that differed from the speech to which the children of well mother's were exposed. They suggested that, in stressful situations, depressed women reinforce their children's anxiety by increasing their amount of speech and decreasing the length of their pauses. Children with depressed mothers may learn that stressful situations are to be reacted to in an exaggerated manner. This finding has important implications for the regulation of emotion in children of depressed mothers. The decrease in total amount of speech and increase in pauses may have significant implications for interactive quality of toddlers with depressed mothers. These mothers are not positively reinforcing interaction.

Radke-Yarrow et al. (1990) looked at the relationship between the speech of depressed and normal mothers and their toddlers' self-conceptions. This study's methodology was discussed above. The authors discovered that both depressed and normal mothers showed a high frequency of implicit and explicit labeling of their children, providing the children with a substantial amount of self-relevant information. In the 35-minute sample, depressed mothers' mean number of implicit labelings was 307 (SD = 104) and the mean number of explicit labelings was 66 (SD = 28). Well

mothers' mean number of implicit labelings was 330 (SD = 128), and mean number of explicit labelings was 74 (SD = 34).

However, depressed mothers were less likely than were well mothers to comment explicitly on their children's physiological states and less likely to comment on their children's individuality, Fs (1, 31) = 5.80 and 4.02, respectively, ps < .02 and .01, respectively. Depressed mothers were also significantly more likely than well mothers to make explicitly negative comments, F (1,31) = 5.07, p < .03, and were more likely to negatively label emotions, F (1, 27) = 5.46, p < .03, and to comment more on their own feelings than were well mothers, F (1, 31) = 4.85, p < .03. In addition, girls of depressed mothers were more likely to receive less positive comments about their gender and family membership than were boys, though the opposite was true for the children of well mothers, F (1,31) = 9.24, p < .01. The authors also noted a decreased quality of dialogue and a decreased investment in the dialogue among depressed dyads. Children's negative self-references were significantly positively correlated to both the mother's total negative comments and the mother's explicit negative comments, rs = .55 and .50, respectively, ps < .001.

Radke-Yarrow et al. (1990) concluded that children of depressed mothers were learning to focus on labeling both negative emotions and negative aspects of the self in contrast to the children of normal women. In addition, depressed mothers appeared to fail to provide verbal support for their children's individuality at a time when accomplishing individuation is a highly important developmental task.

Using the same sample as Radke-Yarrow et al. (1990), Free, Alechina, and Zahn-Waxler (1996) looked at affective language in depressed mothers (N = 84) and the potential impact of psychotherapy. Thirty-one mothers had not suffered from depression; 10 mothers were depressed without treatment; and 43 mothers were depressed and had had psychotherapy. Psychotherapy had occurred prior to the study. Length of treatment and type varied. In addition, 24 of the treated mothers had also been on medication. All mothers were given a book that contained eight photographs depicting various feelings in infants. Mothers were asked to talk about these feelings with their children. Dialogues were coded for accuracy. Mothers were considered accurate if they used emotion terms to describe the emotion expressed on the child's face or the underlying concept.

Depressed mothers without treatment were less accurate than treatment mothers and well mothers, $F = 3.59$, $p < .03$. Depressed mothers who had been in therapy had greater accuracy when labeling negative emotions than did depressed mothers without treatment, $F = 4.68$, $p < .01$. Children of treatment mothers were more accurate in general and specifically were more accurate in labeling negative emotions than children of the nontreated depressed mothers, $Fs = 3.25$ and 3.29, respectively, $ps < .04$ and .01, respectively.

Free, Alechina, and Zahn-Waxler (1996) suggested that depressed mothers without treatment are less accurate in general when labeling emotions and may have particular difficulties labeling negative affect. Their children also had a greater tendency to label emotions inaccurately. The authors stated that such inaccuracy is

likely to lead to problems in interpreting one's own emotions as well as the emotions of others, leaving children "underprepared for internal monitoring and appraising the meaning of events, as well as more susceptible to interpersonal dysfunction" (p. 789).

A depressed mother's ability to accurately label emotions was also discussed by Zahn-Waxler and Wagner (1993). They examined 98 mothers of preschool children. Mothers were diagnosed by their SADS-L responses that were scored according to the Research and Diagnostic Criteria. Thirty-six of the mothers were diagnosed with unipolar depression and 25 with bipolar depression. Mothers were also administered the Profile of Mood States (POMS, McNair, Lorr, & Droppleman, 1971) inventory, which provided a rating of their current emotional state. Mothers then completed the IFEEL Pictures task, which consisted of mothers looking at a booklet with 22 pictures of babies expressing emotion and then writing down the strongest and clearest feeling that came to mind.

Depressed mothers were more likely than nondepressed mothers to see expressions of fear and anxiety, F (1, 96) = 6.59, $p < .025$. More severely depressed mothers were more likely than less severely depressed mothers to see fear, $r = .28$, $p < .05$. Depressed mothers were no more likely to label infants sad than were well mothers. However, unipolar mothers showed greater variability, either avoiding sadness or seeing it in a majority of photos, Bartlett's Test, $F = 26.7$, $p < .0001$. Zahn-Waxler and Wagner (1993) concluded that depressed mothers' ability to read an infant's emotions is likely to be clouded by their own depressive emotions.

As was the case with studies regarding infants, these studies of toddlers indicate that both the structure and content of depressed mothers' speech differs from that of well mothers' speech and that these differences have important implications for symbolic self-representations. Depressed mothers' speech to toddlers is less accurate, when labeling emotions, particularly negative emotions, and more negative than that of well mothers. The children of these mothers seem to have difficulty accurately labeling emotion and appear be learning to focus on negative aspects of the self and their environment. Depressed mothers also appeared to fail to provide verbal support for their children's individuality at a time when accomplishing individuation is a highly important developmental task. In addition, depressed mothers were also found to speak less to their children than well mothers, except in situations of stress with the result of reinforcing their children's exaggerated reactions to stress.

Speech to School-Age Children

The theme of maternal depressed critical speech continues with the mothers of school-age children. Gorden et al. (1989) studied the interactions between unipolar (n = 12), bipolar (n = 12), medically ill (n = 11), and normal (n = 23) women and their children (n = 58) while discussing a topic of disagreement. The SADS-L was used to determine an appropriate RDC diagnosis. Mothers also completed a BDI to assess current symptom levels. Mothers with unipolar and bipolar diagnoses had been hospitalized an average of 2.2 and 2.7 times, respectively. Depression was considered in the severe range for these two groups. The authors also assessed ongoing life stress by interview.

After the mother completed the interview, mother and child were asked to participate in an interaction task in which they were asked to discuss a topic of disagreement. Maternal speech was coded into two broad areas: task or affective. Task-related speech was coded as either task-productive comments or off-task commentary. Affective feedback was coded as disconfirmatory statements, negative feedback toward child, negative feedback toward self, or positive feedback. Coders were blind to maternal diagnosis. Kappa coefficients for intercoder agreement ranged from .85 to .95 across the six categories, $ps < .001$.

Women with unipolar depression were found to be significantly more negative and critical than were mothers in the bipolar, medically ill, or normal groups, Fs (1, 53) = 4.54, 10.07, and 21.04, respectively, $ps < .04$, .002, and .0001, respectively. They also made fewer task-productive comments than did mothers in the bipolar and normal groups, Fs (1, 53) = 8.55 and 8.60 respectively, $ps < .005$. Depressed mothers also made a greater number of off-task comments than did mothers in the bipolar, medically ill, and normal groups, Fs (1, 53) = 4.54, 5.40, and 7.29, respectively, $ps <$ .04, .02, and .009, respectively. Current levels of both depressed mood and stress affected these results. Somewhat decreased task productivity and increased negativity and critical speech were related to current depression, not just the diagnosis of affective disorder per se, Fs (1, 53) = 3.78 and 20.32, respectively, $ps < .10$ and .0001, respectively. An increased level of stress predicted a decreased number of positive comments to children, F (1, 53) = 7.87, $p < .001$.

Hamilton, Jones, and Hammen (1993) looked at affective style and communication deviance in unipolar (n = 16), bipolar (n = 13), medically ill (n = 11), and normal (n = 24) women. They also considered the effect of chronic and episodic stress and demographic characteristics on these variables. Hamilton et al. (1993) defined affective style as a behavioral analogue of expressed emotion, including criticism, guilt-induction, and intrusiveness. No positive emotions are considered in affective style. The authors believed that affective style reflects the emotional atmosphere of the family during direct interactions. Communication deviance was defined as the inability of the family to maintain a focus of attention when interacting.

Maternal diagnosis was rendered by the SADS-L, and the RDC. Episodic life stressors were assessed by the Life Stress Inventory of the Psychiatric Epidemiology Research Interview. The questionnaire section was used to assess positive and negative stressors occurring in the past year. Chronic stress was assessed with a semi-structured interview.

Mothers and children were observed in the research lab during a conflict-resolution task. They were asked to choose a topic of disagreement that they could discuss and attempt to resolve in 5 minutes. Affective style and communication deviance were coded from transcriptions of this interchange. Affective style was assessed by the affective style coding system. Statements were coded as supportive, guilt-inducing, critical, or neutral. Mothers were given a summary score for negative Affective style, which was the number of critical, guilt-inducing, and intrusive speech

units divided by the total number of speech units. A speech unit was defined as a complete thought or idea. Intercoder reliability was acceptable: kappa = .86, $p < .05$.

Communication deviance was assessed by Velligan's coding scheme that looks at communication deviance during spontaneous interactions. Statements were categorized as abandoned or abruptly ceased remarks, unintelligible remarks, contradictions or denials, extraneous statements, tangential statements, odd word usage, and reiteration. Mothers were classified as either high- or low-communication deviance, based on a median split of transformed scores.

Hamilton, Jones, and Hammen (1993) discovered that more of the unipolar depressed mothers evidenced high negative affective style than did mothers in any of the other groups, χ^2 [3, 64] = 9.21, $p < .05$. Eighty-one percent of the unipolar mothers evidenced high affective style, whereas only 54% of the bipolar, 27% of the medically ill, and 42% of well mothers evidenced affective style. No differences were found between groups for communication deviance, χ^2 [3, 64] = 1.25, $p < .74$.

Researchers Hamilton, Jones, and Hammen (1993) then attempted to determine what factors might predict high affective style and high communication deviance. One predictive equation looked at the impact of chronic stress, positive life events, negative life events, and diagnostic status. The other considered demographic characteristics including marital status, diagnostic status, and socioeconomic status. Chronic stress and a low number of positive events were predictive of high affective style, χ^2s [3, 64] = 5.34 and 5.69, respectively, $ps < .05$. The demographic variable that was predictive of high affective style was single marital status, which the authors

believed was indicative of the stresses of single parenthood, χ^2 [3, 64] = 6.33, $p < .05$. Communication deviance was predicted only by lower socioeconomic status, χ^2 [3, 64] = 11.93, $p < .01$.

In a related study, Hamilton, Hammen, Minasian, and Jones (1993) looked at maternal affective style in unipolar ($n = 16$), bipolar ($n = 13$), medically ill ($n = 11$) and normal ($n = 24$) women and its relationship to children's coping style. Children and mothers were administered the Schedule for Affective Disorders and Schizophrenia for School-Age Children (K-SADS, Puig-Antich & Ryan 1987) to determine child diagnosis. Then children and their mothers were asked to participate in a conflict resolution task for 5 minutes. Maternal affective style was assessed by the affective style coding system. Statements were coded as supportive, guilt-inducing, critical, or neutral. Mothers were given a summary score for negative affective style, which was the number of critical, guilt-inducing, and intrusive speech units divided by the total number of speech units. A speech unit was defined as a complete thought or idea. Interrrater reliability for affective style was adequate: Cohen's Kappa = .85.

Children's statements were assessed by the patient coping-style system, which evaluated the child's response to a confrontive interaction with parents. Statements could be coded as autonomous, self-affirming, supportive, critical, refusals, self-denigration, and partially autonomous. Coping-style profiles were created based on whether the majority of responses were autonomous or critical. Children were categorized as autonomous, critical, or neutral. Interrrater reliability for coping style was acceptable: Cohen's Kappa = .79.

Children's coping style was found to be related to maternal affective style, χ^2 (N = 63) = 6.78, $p < .05$. Hamilton et al. (1993) discovered that a greater percentage of children of negative affective style mothers evidenced benign (41%) or critical (41%) coping styles rather than autonomous profiles (18%). This pattern was reversed in the children of well mothers. Forty-five percent of children of well mothers evidenced an autonomous profile, 39% had a benign profile, and 16% had a critical profile. Again, it is evident that the children of depressed mothers are likely to experience critical and affectively negative speech when interacting with their mothers. Guilt inducing statements, off-task comments, and intrusiveness may also be common. The impact of current level of depressed mood, stress, fewer positive life events, and single parenthood likely complicate this picture and, in fact, predict increased criticism and negative affect apart from diagnostic status.

The two studies that addressed depressed maternal speech to school age children assessed aspects of the speech that related to children's self-esteem or self-concept. Jaenicke et al. (1987) examined the relationship between maternal depression and children's self-concept. Their sample consisted of mothers ($N = 58$) and their 8 to 16-year-old children ($N = 84$). The sample of mothers was classified in one of four diagnostic categories: unipolar depression ($n = 13$), bipolar depression ($n = 9$), chronic physical illness ($n = 14$), and no diagnosis ($n = 22$). Among the unipolar depressed group, 62% had at least one hospitalization for depression.

Depression was diagnosed with the SADS-L, using the RDC. To assess severity of maternal depression, a scale was devised that ranged from 7, more than one

hospitalization and several episodes of major depression or one hospitalization and four episodes of major depression, to 1, no depression. Women also completed the BDI to assess current level of depressed mood.

Children completed three measures to assess self-relevant cognitions, that is, attitudes about the self. The Piers-Harris Children's Self-Concept Scale is comprised of 80 true-false items that measure attitudes about personal behaviors and traits, school performance, physical appearance, and popularity. It also gives a total score of positivity of self-concept. Children were also administered a self-schema incidental memory task in which 44 self-descriptive adjectives—half positive and half negative—were presented under one of two encoding tasks: self-referent ("Is this word like you?") or structural ("Is this word long?"). Children checked yes or no on a sheet. Later, children were asked to remember as many words as possible. This task is based on the idea that the self-schema guides the encoding and retrieval of information about the self, with words most related to the schema being more available for recall.

Children were also administered the Children's Attribution Style Questionnaire, which consists of hypothetical situations for which the child must give an explanation. These explanations are rated on three dimensions: internal-external, stable-unstable, and global-specific. They also filled out the Parent Perception Inventory, which assessed their perception of nine positive and nine negative maternal behaviors.

After the questionnaires were completed, mothers and their children participated in two interaction tasks. The first was an achievement task in which

mothers were to give instructions to stack colored blocks in a prescribed pattern. Children were blindfolded and could use only one hand. The task was difficult, but the experimenter told the dyad that most children could complete the task in 5 minutes. The second task was a conflict task in which the mother and child were asked to discuss a topic of disagreement and work toward a resolution. The observations were coded in three categories: negative feedback by the mother, negative self-feedback by the mother, and negative self-feedback by the child.

Children of unipolar depressed mothers had the most negative cognitions about the self. They were more likely than the children of medically ill or normal women to evidence a negative self-concept, t (34) = 2.18 and t (51) = 2.74, respectively, and a lower number of positive self-descriptors, t (32) = 2.07 and t (50) = 1.83, respectively. They were also more likely to evidence a depressive attribution style, one that views causes as internal, stable, and global, r = .32, p < .01. Mothers who showed a higher proportion of negative responses while interacting with their children had children with lower self-concept scores, depressive attribution style, and low positivity of self-schema, rs = -.28, .34, and -.34, respectively, ps < .05. Maternal criticism was also related to the children's tendency to make self-blaming internal attributions for negative events and children's self-criticism during a conflict resolution task, rs = .42 and .51, respectively, ps < .001 and .0001, respectively.

This research study provided evidence that the children of depressed mothers view themselves in a more negative manner than do the children of well mothers. Goodman et al. (1994) also provided evidence for this trend. These authors attempted

to delineate the relationship between depressed mothers' critical speech and children's self-esteem. Their sample consisted of mothers and their 8- to 10-year-old children (N = 39). Twenty of the mothers were assessed as mildly depressed, according to BDI scores, at the time of the interview, but all had suffered at least one episode of major depression during their children's lifetime. Lifetime depression was assessed with the SADS-L. Nineteen mothers were without diagnosis.

Within two weeks the children and mothers were administered the Schedule for Affective Disorders and Schizophrenia for School-Age Children-Epidemiologic version (K-SADS-E). The same interviewer administered both child and maternal interviews. Children's diagnoses were obtained from these interviews.

The mother was asked during the first 15 minutes of the K-SADS-E to describe her child in four content areas: school, peer relations, family relations, and hobbies. It was this speech sample that was coded by the researchers. Coders were blind to maternal research condition. All statements were coded as to the presence and valence of expressed emotion. Expressed attitudes were coded in one of four mutually exclusive categories. The Neutral category was used when mothers showed no expressed emotion. The Positive category was used when mothers praised their children or showed approval or appreciation. The Descriptive Negative category captured an unfavorable or negative comment on the child's behavior or personality that did not clearly state maternal disapproval or dislike. The Affectively Charged Negative category was designed to capture statements in which a child was described

in an unfavorable manner, and maternal disapproval, dislike, or noninvolvement expressed. The affectively charged negative statements were hostile or critical.

Affectively charged negative statements were broken into three mutually exclusive categories. The Critical/Hostile category was designed to capture statements in which the mother expressed criticism or hostility without indicating any responsibility for producing the child's behavior. For example, "He's evil." The Self-Blaming category was designed to capture statements in which the mother expressed criticism and blamed herself for the behavior. The Maternal Overinvolvement category was designed to capture statements that contained both criticism and the indication of maternal involvement in age-inappropriate ways. For example, one mother said of an 8-year-old, "He needs me to help him get dressed in the morning."

Children's self-esteem was measured by the Self-Perception Profile for Children. This is a 36-item instrument, with each item scored from 1 to 4. Higher scores reflect higher self-esteem. In addition to a Global Self-Worth score, the instrument renders subscale scores on five dimensions, including Scholastic Competence, Social Acceptance, Athletic Competence, Physical Appearance, and Behavioral Conduct.

Goodman et al. (1994) found that depressed mothers were more likely than nondepressed mothers to express critical, and affectively charged negative attitudes toward their children χ^2s (N = 39) = 6.51 and 5.76, respectively, $ps < .05$. Depressed mothers were also more likely to make statements that indicated overinvolvement with

their children, χ^2 (N = 39) = 4.05, p < .05. They also tended to make more self-blaming comments, χ^2 (N = 39) = 2.82, p < .09.

Children's global self-esteem was significantly related to affectively charged negative attitudes of the mother as well as her depression status, F (1, 38) = 45.91, p < .001. These main effects were qualified by an interaction effect. Depressed mothers who used one or more affectively charged negatives had children with significantly lower global self-esteem, F (1, 38) = 6.10, p < .05. Children exposed to affectively charged negatives also perceived themselves as less competent in social acceptance, athletic competence, physical appearance, and behavioral conduct, Fs (1, 38) = 4.99, 5.45, 9.46, and 38.29, respectively, ps < .05. Children of depressed mothers also showed a tendency to rate themselves as less competent in Perceived Scholastic Competence, F (1, 38) = 3.97, p < .054.

Although these studies do not use the terms presymbolic, symbolic self-representation, or sense of self, they do demonstrate that the way a depressed mother speaks to her child affects the way a child comes to view the developing self. Children of depressed mothers are exposed to highly negative, critical, and off task speech. These same children evidence lower self-esteem, a more negative self-concept, lower self-confidence, a depressive attribution style, as well as a more critical interaction style.

Speech to Adolescents and Pre-Adolescents

In the transition to adolescence, efforts toward independence again come to the fore. A parent must be able to support the child's assertive and independent efforts,

while continuing to provide a supportive atmosphere in which dependency needs are still acceptable. The messages that a mother communicates to her child about his or her efforts to engage in life and relationships outside the home will likely affect the child's ability to negotiate this important developmental phase and affect the child's symbolic self-representations regarding autonomy and dependency.

Two groups of researchers attempted to determine the effects of maternal depression on speech to adolescents and pre-adolescents. Burge and Hammen (1991) studied mothers (N = 57) and their 32 girls with a mean age of 12 years, 5 months and 25 boys with a mean age of 12 years, 9 months. Thirteen families had unipolar depressed mothers; 12 families had bipolar depressed mothers; 11 families had chronically ill mothers; and 21 families had normal mothers. Depression was measured by the BDI. Unipolar depressed mothers had an average BDI score of 19.3, indicating moderate depression.

Mothers and their children identified and then spoke for 5 minutes on a recurrent topic of disagreement. Verbal interactions were coded for task productivity and affective quality. Affective quality was coded as positive, indicating confirming statements and positive task and personal feedback, or negative, the opposite. Burge and Hammen (1991) also attempted to assess the impact of maternal chronic stress on maternal communication. Maternal chronic stress was evaluated via an interview.

Six months after the interview, researchers Burge and Hammen (1991) conducted a telephone interview using the K-SADS. The information gained from the maternal and child interviews was scaled on a 4-point scale for affective and

nonaffective diagnoses. For affective disorders, 0 indicated no depression and 3 indicated major depression or dysthymia. For nonaffective diagnoses, 0 indicated no symptoms, and 3 indicated two diagnosable disorders or one diagnosable disorder and symptoms of another. The Child Behavior Checklist given to the children's teachers assessed school performance. Teachers also gave information about grades. The Academic Performance Rating Scale ranged from 1, indicating significant problems, to 5, indicating superior functioning. The School Behavior Rating Scale ranged from 1, significant problems, to 5, superior performance.

The authors found that affective diagnoses in children were significantly predicted by maternal interaction variables. Task productivity and positivity yielded a multiple correlation coefficient of .45, accounting for 20% of the variance in the severity of children's affective diagnoses. Children's school behaviors and academic performance were also significantly related to maternal interaction style. Positivity and task productivity accounted for 24% of the variance in school behavior and 16% of the variance in academic performance.

Maternal chronic stress and BDI scores significantly predicted positivity of communication, $\underline{F}$ (2, 55) = 7.47, $\underline{p} < .001$, $\underline{R} = .46$. However, BDI scores did not contribute independently. The more stress and depression that a mother experienced, the less positive was her communication. Maternal depression also predicted task-focused interactions. BDI scores were the only significant independent predictor of task productivity. They accounted for .16 of the Overall $\underline{R}^2 = .18$. Chronic stress may

be an important contextual variable that affects the quality of a mother's interaction with her children.

Both task focus and affective quality of maternal speech are predictive of children's depression scores and school behavior. As negative and critical qualities of mothers' speech adds to difficulties in maintaining task focus, increases in children's depression scores and a greater risk of behavior problems in a school setting also occur. In addition, the more negative and critical a mother's speech, the greater the child's academic difficulties. Burge and Hammen (1991) noted that depressed mothers have been found to increase negative affect and decrease task productivity. Their work indicates possible specific links between maternal communication style and children's psychopathology and school behavior and performance.

Tarullo, DeMulder, Martinez, and Radke-Yarrow (1994) considered the effects of maternal depression on communication between mothers and their adolescents. They also looked at the possible effects of child gender, age, and problem status as well as the severity and recency of maternal diagnosis. Their sample consisted of 31 unipolar mothers, 22 bipolar mothers, and 30 mothers with no history of psychiatric illness. Mothers had one child classified as preadolescent, aged 8 to 11 years old, and one child classified as an adolescent, aged 12 to 16 years old. Maternal affective diagnoses were rendered via the SADS-L and the RDC.

Mother and child (each child separately) were asked to discuss three questions provided by the experimenter. Interactions were observed and videotaped behind a one-way mirror. Discussions were 10 to 15 minutes in length and were coded to reflect

quality of communication skills, level of investment in the interaction, identification with the other, attributions to self and other, empathic response, and affective tone. Two factors were extracted that described mothers' behavior. Mothers were considered either engaged or critical/irritable. Mothers were engaged when they talked about feelings, encouraged dialogue, expanded their children's contributions, and listened. Mothers were critical/irritable when they showed irritability, emphasized negative aspects of the mother-child relationship, or disconfirmed or criticized the child. Children were classified as either engaged, comfortable/happy, or critical/irritable. All observers were blind to diagnostic category.

Tarullo, DeMulder, Martinez, and Radke-Yarrow (1994) discovered that mothers with younger children were most engaged with sons, a finding that was qualified by a significant interaction between maternal diagnosis and child gender, *F*s (1, 74) = 4.89 and 4.92, respectively, *p*s < .05. Depressed mothers of preadolescents were significantly less engaged with their daughters than were all other mothers, as revealed by post hoc tests.

Recency and severity of illness also affected a mother's engagement with her preadolescent. If mothers had not had an episode within the past month, they were less likely to be engaged with their preadolescent children and least likely to be engaged with their daughters, *F*s (2, 71) = 3.04 and 3.21, respectively, *p*s < .05. Severely ill mothers were less engaged than well mothers when their children had no problems in the past year, *F* (2, 70) = 3.38, *p* < .05. The authors speculate that in contrast to well mothers who are very engaged, particularly with daughters, affectively ill mothers

disengage during less symptomatic periods. During symptomatic periods, affectively ill mothers appear more engaged, but the engagement is critical in nature. Tarullo, DeMulder, Martinez, and Radke-Yarrow (1994) found no relationship between critical communication and maternal diagnostic status.

With adolescent offspring, well mothers showed a pattern of increased engagement with those children who evidenced problems compared to those who did not. F (2, 53) = 3.8, $p < .05$. This pattern did not appear with affectively ill mothers. In addition, affectively ill mothers with a recent episode were significantly more critical/irritable with their daughters than mothers with no episode within a month and well mothers. F (2, 53) = 4.64, $p < .01$.

These studies (Burge & Hammen, 1987; Tarullo et al., 1994) indicate that affective illness affects the way mothers speak to their preadolescent and adolescent children and have important implications for children's development of symbolic self-representations. Both studies demonstrated the deleterious effects of critical interaction, particularly for girls. Critical speech was also related to poorer academic performance and, in combination with task focus difficulties in mothers, to poorer school behavior and increased risk of depression. Critical interaction as evidenced by critical speech appears to have particularly damaging effects during this stage of development.

Hostile Speech: Verbal Aggression and Expressed Emotion

The relationship between maternal depression and extreme forms of speech is important to consider because hostile or intrusive speech appears to place children at

risk for socioemotional difficulties and/or psychopathology. Children who have experienced verbal aggression have increased rates of physical aggression, delinquency, and interpersonal problems, and daughters of verbally aggressive fathers show lowered self-esteem (Downs & Miller, 1998; Vissing, Strauss, Gelles, & Harrop, 1991). Children with depressive disorders are significantly more likely to have parents who expressed high levels of expressed emotion, even higher than those of schizophrenic children (Asarnow, Tompson, Hamilton, Goldstein, & Guthrie,1994). Expressed emotion has also been related to an increased rate of relapse for adult schizophrenic patients as well as an increased rate of relapse for adult mood, substance, and eating disorders (Butzlaff & Hooley, 1998; O'Farrell, Hooley, Fals-Stewart, & Cutter, 1998).

One article discussed the possible link between maternal depression and child abuse, physical aggression, and verbal aggression. Zuravin (1989) studied 518 mothers who were receiving Aid to Families With Dependent Children, 101 of whom were moderately depressed and 59 of whom were severely depressed on the day of the interview. The BDI and the Diagnostic Interview Schedule measured depression.

Aggression was measured by the Conflict Tactics Scale, which included the Child Abuse Index, the Physical Aggression Index, and the Verbal/Symbolic Aggression Index. The Child Abuse Index is composed of three behaviors likely to lead to serious injuries in the child: kicked, bit, or hit the child with a fist; beat the child: and used a knife or gun on the child. The Physical Aggression Index is composed of five behaviors that are physically aggressive, but not as likely to lead to

child injury as those on the Child Abuse Index: threw object at the child; pushed, grabbed, or shoved the child; hit or tried to hit the child; and threatened the child with a knife or gun. The Verbal/Symbolic Aggression Index is comprised of six behaviors that do not involve physical aggression: insulted or swore at the child; sulked or refused to talk about the conflict; stomped out of the room; cried; did or said something to spite the child; threatened to hit/throw something at the child; threw, smashed, or hit something other than the child.

Zuravin (1989) discovered that moderate and severe depression were associated with an increased likelihood of high frequencies of verbal aggression, χ^2s = 8.13 and 12.32, respectively, ps < .05 and .01 respectively. This finding is somewhat difficult to generalize because only low income depressed mothers were considered. It is possible that socioeconomic status may interact with levels of depression such that women of different socioeconomic status may show different patterns of verbal aggression.

Schwartz et al. (1990) studied 275 children from 143 families to analyze the relationship between maternal depression, expressed emotion, and children's diagnostic status. Expressed emotion was defined by three components: critical attitudes, hostile attitudes, and extreme emotional overinvolvement The authors administered the Camberwell Family Interview (CFI, Rutter & Brown 1966) to assess expressed emotion in the parents. The scale was adjusted so mothers talked about their children as well as their spouses. Interviews were rated on emotion expressed when talking about spouses or children. Ratings were made on seven summary scales

including criticism, hostility, warmth, positive remarks, dissatisfaction, tension, and irritability. Parental diagnoses were based on the SADS-L and the Research Diagnostic Criteria. Children's diagnoses were based on the Diagnostic Interview for Children and Adolescents.

Schwartz et al. (1990) discovered that mothers with affective illness demonstrated higher levels of critical expressed emotion than mothers with other psychological illness and mothers without illness. Higher expressed emotion produced a 3 times greater likelihood of a child being diagnosed with a substance use, conduct, or depressive disorder.

It appears that women with depressive illnesses are more likely to speak in a hostile and critical manner to their children. The authors of the two studies reviewed, Zuravin (1989) and Schwarz et al. (1990), found that depressed mothers had higher levels of hostile speech and expressed emotion.

Summary and Conclusions

A mother's speech appears to impact her child's formation of presymbolic and symbolic self-representations and the process of integrating those representations into a cohesive sense of self. The literature indicates that maternal speech influences this process from the birth of the child through at least the child's adolescence. Both the content and process of maternal speech affect the way the child comes to view the self. The mother's tone of voice, her ability to facilitate coordinated interactions, her use of

paralinguistic features, her words, and amount of speech are some of the many aspects of process and content that affect her child.

During her child's infancy, the primary function of maternal speech is to coordinate interactions and thus facilitate attachment. Theorists such as Bowlby (1982) and Stern (1985) believe that a secure, trusting early relationship is a necessary prerequisite to other developmental tasks. A mother uses her speech in different ways to accomplish this task, such as using her speech to gain attention, and to elaborate and maintain interaction sequences with her infant. She also uses speech to modulate the arousal level of her child, and to convey evaluative messages. What she chooses not to speak about is also important because it is one way that her infant learns what is and is not acceptable for his or her particular mother. Mothers of infants treat them as dialogue partners and reduce the complexity of their speech to meet the needs of their infants. They consider their infants' body movements and behaviors as the children's turn in the dialogue and attribute meaning to such actions. It is the paralinguistic features of the mothers' speech, as well as the mothers' skill in facilitating coordinated, smooth interactions that becomes important. It is in this way that maternal speech affects presymbolic self-representation formation.

The content, in addition to process, of maternal speech becomes important during the toddler years. The toddler's growing language skill means that the particular words a mother uses will likely influence the words a child uses to talk about the self. The mother's ability to use her speech to facilitate play, emotion language, and social interactions as well as her tolerance for various developmental

themes will affect her ability to assist her child in symbolic development. What a mother can tolerate discussing will affect what her child can discuss. Mothers who provide an accepting environment, who talk to their children about emotions, who elaborate their children's play, and who comment positively on aspects of self-development are likely to have children who are able to label and discuss emotions and aspects of the self.

The verbal environment provided by mothers for toddlers varies with the gender of the child. Mothers tend to be more talkative with girls in general and, when discussing emotions, are focused on the emotion itself—a more relational stance. With girls, mothers tend to focus on positive emotions and tend to attribute negative emotions to others. With boys, they spend equal time discussing positive and negative emotions and tend to teach their boys emotional control strategies. Mothers' speech appears to affect children's gender symbolic self-representations. The reviewed studies indicate that girls may have difficulty identifying themselves with negative emotions, especially anger, whereas boys may be more likely to view aggressive emotions positively. Due to mothers' input, girls may tend to value and view the self more relationally than do boys.

Taken together, these findings suggest that maternal speech has a strong influence on the formation of symbolic self-representations during the toddler period. The language mothers use to describe toddlers' emotions and self-experience appears to be, in part, the language with which the toddlers describe the self. Both the label

and the evaluation are important in determining how the toddlers will feel about aspects of self-experience.

Those emotions and experiences that mothers help the toddlers put to words will move from the world of action to the world of symbol. Those aspects of self that are not symbolically represented will either be acted out, acted in, remain ambivalently regarded, or form the basis of a negative identity. A child's other relationships as well as his or her own temperament may determine which of those will be the case.

Little is known about the speech of well mothers beyond the toddler period. Studies that include children in middle to late childhood and adolescence would be particularly helpful in determining parental, sibling, and peer impact on the integration of self-representations into a cohesive sense of self. In addition, identification of factors that contribute to variations in self-representations such as culture might be a helpful contribution to the literature.

Depressed mothers' speech is significantly different from that of normal mothers in terms of both content and process, and these differences have been shown to affect the way that children come to view themselves. Although no study specifically addressed the effect of depressed mothers' speech on the development of presymbolic self-representations, it is highly likely to have some effect via the mothers' difficulty to maintain interactions. Depressed mothers speak less to their infants, exaggerate their intonations less, and take longer to respond to infants, suggesting that interactions may be awkward at best or nonreinforcing at worst.

Zekowski et al. (1987) has suggested that such noncontingent speech may reinforce learned helplessness due to the infant's inability to affect the mother. It is speculative, but it is possible that an infant may take these differences in maternal interactions as a rejection of the core self.

Depressed mothers' speech to infants also appears to be critical and negative, focusing on correcting the infant. Depressed mothers also ascribe agency less often than do well mothers. It may be that these differences in maternal speech reinforce negative affect related to core feelings about self, other, and interactions. In addition, these studies may reveal the beginnings of an inability to view the self as an agent, having an impact or being able to change one's situation.

Maternal speech to toddlers may be especially crucial in determining the beginnings of symbolic self-representations. Mothers during this period begin to help young children find words for their emotions and self-experience rather than leaving children merely to demonstrate what they feel via action. Mothers also use words to accept, reject, or mislabel aspects of children's experiences. Depressed mothers' speech may have a profound impact on the language that children develop to talk about themselves.

Structural and content differences in depressed maternal speech carry over to the toddler period. Depressed mothers of toddlers spoke less and took longer to respond, as they had with infants, indicating that coordinated interaction difficulties continue into this period. Their speech was also more negative, and they were less likely to comment on their children's individuality, as was true with infants. In

addition, depressed mothers were more likely to focus on negative emotions and showed a tendency to mislabel emotions, particularly negative ones. With regard to sadness, depressed mothers had a tendency either to avoid labeling sadness or to see it everywhere.

The children of depressed mothers showed difficulties in correctly labeling emotions and spoke about self-experience more negatively than did children of well mothers. Children of depressed mothers appeared to be learning to focus on labeling both negative emotions and negative aspects of the self in contrast to the children of well women. These children also appeared to fail to obtain support for their individuality.

These studies suggest that depressed mothers may be assisting their children in developing symbolic self-representations that are highly negative in nature. In particular they may not be receiving the support necessary to view themselves as individuals, thus possibly reinforcing their sense of helplessness and lack of impact on the environment. Symbolic self-representations in the areas of agency, intimacy, identity, and competency will either likely be negative in nature or may fail to enter the symbolic realm due to lack of reinforcement from the mother. In the area of affect, children appear to be learning to either symbolically represent negative affects or to mislabel affects. At a time when children should have unrealistically positive self-representations, these children appear to be developing quite the opposite.

Depressed mothers' speech to school-age children continues to show marked differences from that of normal mothers, and their children continue to evidence

problems in the way they view themselves. Depressed mothers are more likely to evidence critical, guilt inducing, and hostile speech as well as speech that undermines their children's autonomy and independence and rejects certain aspects of the children (Hamilton, Jones, & Hammen,1993).

The children of depressed mothers perceived themselves more negatively and less competently than did children of nondepressed mothers. They saw themselves as functioning less competently in the areas of social acceptance, athletic competence, physical appearance, and conduct. They tended to view causes of negative events as internal, stable, and global and made self-blaming internal attributions for negative events. They responded to parental critical and negative speech with critical self-statements, self-denigration, and refusals (Hamilton, Hammen, Minasian, & Jones, 1993). They used a low number of positive self-descriptors and had a more negative global self-worth.

Children of depressed mothers appear to be continuing to develop symbolic self-representations that are negative in nature and that fail to capture the self as a competent, confident, change agent. At an age when they should be developing categories about the self that are mapped in terms of opposites, they may have a small number of positive categories and a large number of negative ones. This high degree of imbalance may make it difficult for these children to begin integrating good and bad symbolic self-representations at later stages.

During their children's transition to adolescence, depressed mothers continue to evidence critical, negative speech, although such speech was found in one study to

be related more to chronic stress than depression. They also had difficulty maintaining task focus. Depressed mothers were less likely than were well mothers to talk about feelings, encourage dialogue, listen, or expand their female children's contributions. They were also significantly more likely with daughters than with sons to emphasize a negative view of life and negative aspects of the child or relationship with the child, disconfirming the child's feelings or viewpoint and criticizing the child.

No study with this age range directly addressed the question of how these speech differences may affect symbolic self-representations or the process of their integration. The studies did indicate that the more negative and critical the mothers' speech and the greater the difficulty in task-focused speech, the greater the increases in children's depression scores and the greater the risk of behavior problems in a school setting. In addition, the more negative and critical the mothers' speech, the greater the children's academic difficulties. One might surmise that negative symbolic self-representations are reinforced by maternal speech and difficulties in a school setting and that overwhelmingly more negative than positive self-representations make integration of good and bad aspects of self into a cohesive sense of self unlikely.

It appears that depressed mothers' speech may significantly impact children's formation of an integrated sense of self. However, the picture is more dynamic and complicated than is presented due to the impact of multiple individuals in the child's environment. How a father, siblings, peers, teachers, and grandparents respond will impact this process. In addition, qualities within the child, such as temperament, will also impact the process.

The verbal environment provided to the children of depressed and well mothers is distinctly different in terms of the content, structure, and process of speech and these differences have been tentatively linked to variations in the way that children come to view themselves. Many of the conclusions drawn in this review are tentative and highly theoretical. More research is necessary to confirm or disconfirm these hypotheses.

Research Suggestions

Continuing research is necessary to more clearly define the impact of maternal speech on presymbolic and symbolic self-representations as well as the process of forming an integrated sense of self. At present there are too few studies to draw firm conclusions. It is important that researchers take a developmental approach to such studies. The present theory holds that the tasks of forming and integrating presymbolic and symbolic self-representations change over the course of development. It would be helpful to have studies that examined the effect of maternal speech at each developmental level. In this review no studies of well mothers were available that went beyond the toddler period.

Studies that examined the content of mothers' speech in terms of evaluative statements about specific areas of children's self-representation development at each developmental stage would also add to the literature. These overt statements could be compared to children's views of themselves to aid in developing an understanding of how children acquire their self-representations. Examining specific areas of

functioning would help the field begin to make precise links between maternal speech and child self-representations.

Once the relationship between well mothers' speech and child self-representations is better understood, then various maternal diagnoses can be compared as to their specific impact upon this process. The maternal depression literature that has already been published can help to further understanding.

Neither body of research considered in this paper has included the speech of peers, grandparents, teachers, and significant others. The impact of fathers on self-representations is not directly discussed, but some literature on fathers' speech to children does exist. It was beyond the scope of this paper to review this body of work, but an analysis of the literature might provide interesting insights into children's self development and would provide a balance to the maternal focus of this review. A more thorough understanding of the process of development would also include the impact of the child upon this process. Child development is a reciprocal process during which the characteristics of the child affect his or her environment as well as the environment affecting the development of various characteristics and domains of functioning. The child's genetic endowment, temperament, and intellectual and emotional strengths and weaknesses likely affect the manner in which information about the self is processed. Any theory of self-representation and sense of self-development must consider the impact of the child as filter upon these processes.

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EDUCATION

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California State University, Long Beach Psychology	B.A.	1993

INTERNSHIP

Child Guidance Center, Incorporated Santa Ana, California	1999	2000

PRACTICA

Hospice of Pasadena Inpatient/Outpatient Program	1998	1999
Biola Counseling Center Outpatient Program	1996	1998
For the Child Outpatient Program	1997	1998
Irvine Unified School District School Practicum	1995	1996

EMPLOYMENT

Hacienda/LaPuente Unified School District Interventionist	1998	-present
Hospice of Pasadena Therapist	1999	- 1999